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EDITORIAL—SOME HIGHLIGHTS

I General Economic Scene

State.

Tamil Nadu Economic Appraisal-1977: Tamil Nadu: an Economic Appraisal - 1977, the annual State government's economic review, has been delayed by over six months. Normally published in September, the 1976–77 review was not released till April 1978. State income is reviewed as a trend, for the period 1960–61 to 1975–76, the trend being 2.3 per cent compound rate of growth in real terms (compared to 3.4 per cent compound at the national level). This trend hides rather wide annual fixations ranging from an increase of 13.9 per cent in 1975-76 and 0.3 per cent in 1961–62 to a decline of 10.4 per cent in 1974–75 and 2.2 per cent in 1965-66. The third plan growth rate was one per cent compound, the Annual Plans rate 3.2 per cent, the Fourth Plan 4 per cent with a fall in 1.8 per cent during the first two years of the Fifth Plan, calling for a 9.0 per cent growth during the balance of the plan period if the target of 5.5 is to be attained. For 1975–76, the State income was Rs. 4,100.25 crores (up from Rs. 3,805.83 crores in 1974-75) at current prices, which was a 7.7 per cent rise: at constant (1960-61) prices, it was Rs. 1,597.86 crores (up from Rs. 1,403.48 crores in 1974–75), a rise of 13.9 per cent as noted earlier. Thus growth at current prices was less than that at constant prices, indicating the relative price stability for that year. Per capita state income at constant price was Rs. 351 in 1975–76, an increase of 11.4 per cent: with Rs. 905 at current prices the rise was 5.4 per cent. The structure of the economy changed between 1975–76 and the previous year primarily because of the drought: the primary sector which accounted from 33.9 per cent of the State income in 1974–75, increased its share to the normal 38.8 per cent (down from 52.0 per cent in 1960–61), the secondary sector fell from 28.5 per cent in 1974–75 to 25.9 per cent in 1975–76 (up from 17.6 per cent in 1960–61): the other sector, transport, finance and services, maintaining more or less the same shares during the two years and over the decade and a half. The rest of the review deals with the year 1976–77. Agricultural production was affected by the delayed and poor south west monsoon and despite a good north east monsoon, all crops except pulses, cotton

and sugarcane suffered decline in area under cultivation : foodgrains production at 70.3 lakh tonnes (a decline of 2.2 per cent compared to the previous year), including 50 lakh tonnes of rice (a decline of 3.9 per cent), cumbu at 3.6 lakh tonnes (an increase by 8.8 per cent), cholam and ragi declining marginally by 2.2 and 1.2 per cent, the total millet production being 18.7 lakh tonnes. Pulses increased from 1.27 lakh tonnes in 1975-76 to 1.56 lakh tonnes in 1976-77. With regard to commercial crops, there was a good performance by sugarcane and cotton increasing by 9.6 and 22.1 per cent, and declines in groundnut and gingelly by '21.3 and 29 per cent. Irrigation in terms of ratio of net irrigated areas to net area sown declined from 45.6 per cent in 1973-74 to 42.8 per cent due to poor weather. Well irrigation at 8,69,000 hectares was near canal irrigation at 9,11,000 hectares. There were no new major schemes in 1976-77. HYV which covered 75 to 85 per cent of the total paddy areas, covered an additional 21.70 lakh hectares (15.2 per cent in 1975-76). The fertiliser gap declined in 1976-77 to 77,000 tonnes (down from 1.17 lakh tonnes the provious year) in part due to a decline in demand by 25,000 tonnes, offset by increased supply of 15,000 tonnes. Pesticides consumption increased from 17 lakh tonnes to 20.30 lakh tonnes, as did rural credit from Rs. 121.90 crores to Rs. 144.26 crores. The Tamil Nadu Civil Supplies Corporation procurement which was 6.39 lakh tonnes in 1975 declined to 5.59 lakh tonnes in 1976, using 9,543 distribution centres. Animal husbandry with 10.57 million cattle, 2.85 million buffaloes, 5.39 million sheep and 3.95 million goats was further developed as part of SFDA, and DPAP schemes. Fisheries—inland and marine—at 3.70 lakh tonnes was further developed to attain the target of 6.30 lakh tonnes by the end of the plan period. Forest produce declined mainly due to the decline in sandal wood, with extension of forestry over 6,645 hectares. Industrial production showed an increase of 7.8 per cent in 1976, with cement, electricity, automobiles, diesel engines, cotton yarn, tyre, cotton piece goods, safety matches and cycles showing increases, while caustic soda, fertilisers, tea, sugar and motor cycles declined. On the whole, basic goods ex[illegible] fertilisers, capital goods and interm[illegible] did well with increases of 28.2[illegible] 24 per cent and 10 per [illegible] while consumer goods showed in the main declines. The 1972 census showed 16,002 small scale units with a total of Rs. 176.36 crores, a production of Rs. 321.78 crores and employment of 2.15 lakh persons. Non-agrobased industries form 70 per cent, with mechanical engineering industries forming 37.13 per cent and metal product units being 3,610. Capacity use at 59.2 per cent in this small sector is poor-ranging from 77.7 per cent for leather and 48.5 per cent for metals. The concentration of the units is heavy in Madras (3,009 units), Coimbatore (2,767), Madurai (1,581), Ramanathapuram (1,472), Tiruchirapalli (1,443), Salem (1,139), Thanjavur (1,012) and Tirunelveli (1,004). The backward districts are Nilgiris (133), Dharmapuri (335), Kanyakumari (328) and South Arcot (462). Power during 1976-77 was poor, the hydel reservoirs declining from 1,701 million units in January 1976 to 831.91 million units in January 1977, while thermal generation increased by 65 per cent. Total generation was 4,929 MU in 1976-77 (down by 14 per cent,) and purchases amounted to 3,421 MU. Power consumption in the year increased marginally by 3 per cent—the

major consumers being industry (47.9 per cent) and irrigation (26.2 per cent). The gap between power requirements at 25.5 MU per day and availability at 21.2 MU is serious, and will become more serious by the end of the Sixth Plan, unless the Neyveli second mine cut, *Kalpakkam* and *Tuticorin* are supplemented by larger power outlay. The employment statistics as usual provide little information beyond that in the organised sector amounting to 16.80 lakh workers (10.82 lakhs in the public and [illegible] lakhs in the private sector) and their [illegible]ion industrywise. It is reported [illegible] employed in terms of those regi[illegible] with the Employment Exchanges increased from 1.32 lakhs at the end of the Second Plan, 2.02 lakhs at the end of the Third Plan, 5.94 lakhs at the end of the Fourth Plan and stood at 8.84 lakhs in March 1977. The educated unemployed increased from 34.8 per cent of those registered in December 1969 to 55.9 per cent in June 1977. The price situation deteriorated, against a decline of 23.9 per cent in 1975-76, there was a rise of 21.6 per cent recorded in 1976-77. The review also sets forth the behaviour of money and banking and the finances of the State. It is a partial analysis of the behaviour of the economy-with emphasis on agriculture and manufactures at the macro state level. The statistics provided of the other sectors are not very precise and illuminating. There are the dated nature of the statistics on population and the aggregate presentation of those with regard to *agriculture, health and education*, and the non-coverage of the total work force, particularly as without information on the inputs in the unorganised sector and the progress or lack of progress in land reforms, it is difficult to use the Review for the purpose of arriving at any informed conclusions on the effect of the behaviour of the economy in 1975-76 and 1976-77 on the levels of living of the people. While that probably is not the purpose of an economic appraisal document, it should at least provide the basic data for others-planners, researchers and specialists-to work on the material to arrive at certain hypotheses.

Climate, Prices and Finance: May was a hot dry month in the State and for a week the State was in the grip of a heat wave which affected work possibilities as well as the production frontiers. On the price front, prices rose marginally in May particularly in regard to meat, vegetables and pulses. The discontinuance of levy procurement and the free movement of rice within the State has had some effect on rice prices. Prices of medium and coarse varieties have remained the same, while fine varieties have risen marginally as a result of the package of concessions granted to the farmers by the government during the month. Rice prices have shown a downward trend over the last four months. Ponni, Neelan and Arcot Kichidi were selling at Rs. 2.10 to Rs. 2.30 per kg.; while medium rice was selling at Rs. 1.60 to Rs. 1.80 per kg. Coarse varieties such as Kannagi, Kanchi, IR-8 and Rose-Karwell selling at Rs. 1.20 to Rs. 1.80 per kg. Besides the consumer's freedom to choose his variety, the fall can be traced to the removal of the traders levy. The offtake from the public distribution outlets have fallen by 30 per cent. North Arcot rice stocks have been moving to mofussil centres like Coimbatore, bringing down the prices there. The government's plan to provide each village with a fair price shop in the districts of Madurai and Ramanathapuram is now ready to go into operation. In

the two districts, the co-operatives are running 1,176 shops and in June 1,046 more shops are to be opened, with a marginal subsidy from the government of Rs. 2,400 for every shop for the first year to meet the cost of staff and *furniture. The next in line to benefit* from the scheme are the districts of Tirunenveli, Kanyakumari and Coimbatore. CSO reports that in September 1977 consumer prices in the State rose by 1 per cent at 306 after registering a fall of 0.7 per cent in the previous month. Food prices declined and cloth prices rose marginally. Rural prices for the month fell by 1 per cent at 303, with food prices registering a similar fall at 325. As noted in earlier issues, mofussil prices, in Tiruchi were one per cent and in Madurai four per cent lower than in Madras. The Union and the State governments are reviewing the financial compensation due to the State because of prohibition. In May, the Union government circulated to the States detailed guidelines on introducing prohibition within four years, using mainly the system of dry days in the week-starting with two in the first year, going on to four in the second year and so on and regulating the issue of permits to habituals, diplomats, tourists ētc. On finance, since Tamil Nadu (and Gujarat) will not benefit from the formula of the Union government compensating 50 per cent of the loss of excise revenue from the 1977-78 base, the State has *been asked to estimate its excise* loss, which it has placed at Rs. 140 crores from 1975-76. The Union government will also have to decide how long the compension will last. In 1961 when the first scheme of compensation was introduced (50 per cent of the loss), it was for 5 years but no State took advantage of the scheme. In 1968 it was renewed except for States which had already introduced prohibition, and so while Uttar Pradesh (Rs. 60 crores), Rajasthan (Rs. 66 crores) and Haryana (Rs. 42 crores) received compensation, Tamil Nadu did not. Hence the need for review of the formula.

Power : In May, the power situation in the State deteriorated due to the coal shortage faced by Ennore and Basin Bridge, the breakdown of one 110 MW set at Ennore and the low output from Neyveli. On May 65,000 tonnes [illegible] coal arrived from the North, involvin[illegible] *Ennore a stock position of 9,50*[illegible] adequate for 2 days consumpt[illegible]e 24 day strike at Singareni reduced drastically coal wagons coming to the thermal station. Coal was moved by sea to Tuticorin and Cochin ports, but their movement from there to Ennore and Basin Bridge was poor and inadequate. Ennore which consumes 5,500 tonnes per day received only 1,500-2,000 tonnes by rail. The situation improved towards the end of the month. The Ennore breakdown was set right on May 23 as a result of which all five *units* were working, generating 360/380 MW. Neyveli was feeding 6 million units into the State grid and some increase in generation was expected from the end of May. For the month, however, a staggered load shedding for four hours per day in different parts of the State was in force. To the above bottlenecks should be added the electricity strike in Kerala which resulted in reduced power supply from Kerala until the 220 KV transmission tower at Koovapalli, which had been broken was re-erected. In fact at the end of the first week of May, Tamil Nadu and Karnataka provided emergency help in power supply to Kerala. On May 23 the ministers of the three states-Tamil Nadu, Kerala ain.

Karnataka-met and agreed that (a) Tamil Nadu will purchase 7.5 million units per day from the Idukki project and (b) Karnataka will purchase 2 to 2.5 million units from Kerala till the end of June, which would enable it to avoid increasing further its current 55 per cent power cut. Till February 1979, Tamil Nadu will be paying Kerala 12.5 paise per unit, after which it will be raised. In addition to increasing power generation and supply, the government has volved a plan to economise power use e State. The State grid is short of y about 200 MW and instead of shedding, consumer's discipline and economy could have met this shortage. In Public and private units considerable saving can be made by switching off lights, fans and air-conditioners when not needed and through educating farmers and rural consumers on power use.

For the country as a whole, the power supply position presented the same mixed picture. Except in UP, the position in the north region was satisfactory, with no cuts in Punjab, Haryana, Himachal Pradesh and Rajasthan (which met its load requirements by borrowing from Bhakra and Chambal). In Uttar Pradesh there was energy and peaking shortage. Temporary shortages were experienced in Delhi because of simultaneous usage of a large number of thermal generating units-particularly in the new areas. In Karnataka, West Bengal, Bihar, Maharashtra, there were power cuts, with erratic coal supply for the thermal stations and the impending shortage of uranium fuel, Maharashtra faces a serious shortage. Against a total demand of 2,310 MW, power availability is only 1,895 MW. The installed rated capacity is 2,696 MW and the firm capacity 1,834 MW. In Gujarat on the other hand actual generation is 1,290 MW against a peak demand of 1,330 MW and the outlook for the future is equally bright. Bengal which faced serious power shortage is planning to import surplus power from Orissa, as one means of reducing the 30 per cent loss being sustained by industry as a result of power cuts. Another project under discussion between Tamil Nadu and Karnataka is the Hogenekkal project which Tamil Nadu has proposed should be delinked from the Cauvery dispute, which however some groups in Karnataka are against. This is one project which can relieve the power shortage in both States. The Union ministry of energy reports that the total generation last April was 8,350 MU, against the target of 8,241 MU. 21 out of 27 units proposed to be commissioned by the end of March had been completed including the first 210 MW unit at Obra, which was followed by 210 MW unit at Koradi. The strategy for power development in the future is to set up pithead thermal stations using large size generators at 400 KW and above. During the year, 1978-79 new generating capacity of 3,857 MW--2,755 MW thermal and 1,102 MW hydel—is to be set up, calling for sustained efforts by State Electricity Boards and Central Electricity Authority. The Ministry also announced that future imports of 200 MW sets will not be from the Soviet Union, but from West Germany on the basis of offers made by UGB, a West German firm, as a supplement to BHEL's major effort. For the second time Korba was adjudged the best thermal station in May 1978, generating 7,035 units per KW-that is 80 per cent of its installed capacity.

Water: In May in the Rajya Sabha, the Union minister of Agriculture

announced that a meeting of the Chief Ministers of Tamil Nadu, Karnataka and Kerala to settle the Cauvery water dispute will be called in June. The agreement on setting up the Cauvery Valley Authority had to be implemented and the scope for saving some 125 tmc of water by the 3 States turned into action programmes. Similarly the Krishna waters discussion between Tamil Nadu, Andhra Pradesh, Maharashtra and Karnataka are proceding along with the decision of Andhra Pradesh to divert part of the Krishna waters to Rayalaseema to irrigate an additional five lakh acres. The Tamil Nadu Water and Drainage Board has formulated a proposal for augmenting Madurai city water supply by 10 mgd of water from the Vaigai reservoir, at a capital cost of a 8.15 crores and recurring Rs. 14.11 lakhs per annum. As a first step it is proposed that 3,000 tmc ft of Vaigai water should be used and the Board is being requested to examine the diverting of some of the west flowing rivers of the Western States such as the Patchakamachi range, Periyar lake range, Bodimet-Kodaikanal range. The Periyar improvement scheme is under execution and also referred to the World Bank for aid - to extend the scheme to 29,500 acres of new ayacut utilising 3,850 tmc ft of water. In Madras city, the Madras Metropolitan Water Supply and Sewerage Board formed under the law passed by the legislature in April is taking over responsibility for the water supply and drainage systems. The Board can, levy as water tax upto 20 per cent of the property tax and for sewerage 10 per cent. With this power, bulk consumers of water can be controlled and taxed. A three year time bound comprehensive programme to clean the sewers, replace the obsolete equipment and renovate the pumping stations in the city at a cost of Rs. 9.5 crores funded by the World Bank is now being executed. The Board can also control sewerage from homes,– all house sewers, septic tanks, and cess pools will be regulated by it. The massive master plan prepared with the help of World Health Organisation will be executed by the Board, which will be responsible for 1,170 sq. km. compared to the coverage of the City Corporation of 130 sq. km.

Transport: The City's Mass R Transport System has been shel years by the Planning Commission h is of the view that traffic in Madras has not reached saturation point and so funds have been allocated only for marginal improvements in suburban services—such as rail electrification of Madras-Trivellore, Madras-Gummudipundi. The State government has however urged the Planning Commission to re-consider its decision on the Mass Rapid Transit System which will rail link Tiruvottiyur and Adyar—a distance of 21.73 KM. The first phase will cover Beach to Luz (8.4 KM) and within this short run, the Beach–Pycrofts Road (5.4 KM) construction. For 1978–79 Rs. 1,186 lakhs have been provided for Madras Metropolitan Development Authority, including Rs. 450 lakhs for water supply and Rs. 275 lakhs for site and services. The Rs. 7.4 crores project for the construction of an outer arm in the Madras outer harbour has been—approved by the Union government to ensure tranquility in the outer harbour even during the North East monsoon and facilitate handling of bulk carriers without difficulty. The Union government is studying also the State government's project for constructing a 180 metre long dry dock instead of the planned 120 metre long one. The

International Airports Authority of India has plans for further expansion of the Madras (Meenambakkam) terminel building by 30 feet on the front. It has acquired 2 sophisticated crash fire tenders and had modernised the airport with loud speaker, closed TV and other facilities.

Town Planning and Housing: In view of the fast growing population and overcrowding of towns and cities, government is developing an inte- ~d urban development programme to and regulate further urban growth and promote a heirarchy of human settlements based on city hinterland inter-serviceability. To start with, optimum urban population for the 5 cities of Madurai, Coimbatore, Salem, Trichirapalli and Tirunelveli along with the development of services for job opportunities and complementary skills are being planned. This also involves planned development of satellite centres to siphon off urban growth in excess of the planned population and the harmonious development of second and lower level urban centres. As in Madras, the Master Plan for Salem and its satellite centres call for heavy investment even for basic minimum needs in the core sector, requiring World Bank aid. In May the government announced that Madras and Madurai Corporations will be levying property taxes at the old rates, so that the new revised rates would be subject to further scrutiny before being applied. Also the government has fixed as 90 days from May 17, the time limit for filing of statements under the Tamil Nadu Urban Land Ceiling Act. Any one wishing to sell the land within the ceiling limit can do so without filing a notice. Other restrictive provisions about transfer, vacant land, buildings as dwelling or non-dwelling units have been relaxed or deleted.

National :

Finance Bill, Commission and Gold Sales: Rajya Sabha announced the Finance Bill as approved by Lok Sabha, deleting the provision imposing an excise duty on coal and electricity (see Vol. VIII p. 207). The Lok Sabha rejected the amendment, so that the Finance Bill as passed by the lower house became law. Three Union government loans announced on May 2 for Rs. 500 crores and opened for subscription on May 15 were subscribed within half an hour of the opening. The loans are part of the gross borrowing of Rs. 1,830 crores provided for in the Union Budget for 1978-79. The report of the Seventh Finance Commission (See Vol. VII p. 437) is expected to be submitted to the government in October. By the end of April, the commission had visited 16 states and will visit the remainder by the end of June. Following the first gold auction on May 3 of 4,92,600 grammes to 229 bidders in the price range of Rs. 620 to Rs. 663 per ten grammes (see last issue p. 266), the second auction by RBI on May 18 was of 14,98,700 grammes to 641 bidders in the price range of Rs. 630 to Rs. 675 per ten grammes. The declared purpose of the gold auctions is to bring down the domestic price of gold which has remained at Rs. 700 per 10 grammes while the international price is Rs. 470-500. This is the basic cause for the smuggling of gold into the country. The two auctions have not lowered domestic prices. In the first auction 50 per cent of the bidders were from Bombay and the other 50 per cent from Gujarat and the South,

the North being almost non-representated. In the second auction which had a better distribution, the price remained as high at Rs. 702 in the market. Hence on May 24, the Union goverement issued a revised order under which sale of gold bars outside a dealer's licensed premises will be restricted to gold not purchased from RBI, so that dealers from outside Bombay cannot sell the RBI gold to Bombay dealers. They will have to take the RBI purchased gold bars to their licensed premises for sale. This would be a means of spreading the gold supply over the country and bringing down its price, it is hoped. Other measures being considered by the government are reducing the gold holding of a family from the current 4 kg., banning bank credit against gold, selling gold directly to gold smith in different parts of the country and not to the dealers and even importing gold. The government's manoeuvrability in the gold market is limited by the fact that it has only 70 tonnes of gold and its objective of stopping smuggling and adding to government income are in a sense contradictory and call for a much larger stock than what it commands. If it really wishes to lower gold price to the international, setting the auction price at Rs. 630-675 does not make sense, except any lowering it will simply be lining the pockets of the gold dealers.

Boothalingam Committee : The Committee on wages, incomes and prices chaired by Mr Boothalingam submitted its report to the government at the end of May. Its main recommendations are: (a) an immediate national minimum wage of Rs. 100 per month at current prices to be raised to Rs. 150 at 1978 prices in seven years, (b) for the rural sector, the minimum desirable household income should be Rs. 1,800 per annum, along with the aim of the bottom 30 per cent coming up to the next higher decile group: (c) the draft Sixth Plan's proposals for eradicating poverty and unemployment through redistribution of land surplus, tenancy reform, supporting employment generations for the very poor, improving the productivity of the marginal farmers and providing him with the needed inputs, assured provision of food-grain supplies to enable small farmers to shift to high value crops etc. all underlined, (d) limiting the comr dividend to a percentage of equit and reserves, at 2-3 per cent below the rate to attract investments, (e) salaries of government servants are subject to restraints, the ratio between the lowest and highest being 1:9, a National Pay Commission should examine whether the salaries of top personnel need an upward revision, (f) in the private sector where the ratios 1:6 perquisites should not be more than 25 per cent of basic pay, with Rs. 6,000 per month being the limit for new contracts for the next 5 years, (g) while a ceiling on income is impracticable, ceiling on consumption and private investments are recommended, by imposing a penalty over a certain limit of total income including that from agriculture or alternatively the excess can be channelled into approved from of savings, (h) the bonus should not be extended to new areas and where it exists should be phased out and replaced by a pension system, (i) the dearness allowance should be based uniformly on the All India Price Index for Industrial Workers, with the value per index point being preferred to the wage linked slab system, (j) a Pay Committee should examine the pay structure of the industrial emyloyees of the railways, posts and telegraphs, defence and other

departmental undertakings, (k) a Pension Commission should review the problem of pensioners and evolve a suitable pension policy for all sectors of workers, (l) future collective bargaining should be within certain parameters applicable to both public and private sectors, the spread between the highest and lowest wage in a unit being normally 4–5 times the lowest wage, and in future wage settlements, units having low wages should come up faster, (m) a permanent nonstatutory body called the Bureau of Income and Prices should be set up, [illegible] set forth guidelines for each [illegible]try within which collective bargaining can take place and (n) price stability should be assured by strengthening the *public distribution system and the* consumer movement. (Price controls and subsidies are left to the Dagli Committee.) The Committee's report faces some of the difficult areas in wages and incomes and sets forth guidelines many of which will have to be further studied, worked out by the Committees and Commissions proposed. Some of the proposals such as the minimum wage proposed are below current levels and *the bonus proposal* has opened a can of worms. There is a sad silence about wages in what is called the unorganised sector, and while no recommendation could be made in the absene of data, some of its broad contours as well as the urgency of assembling data could have been dealt with. The gap between earning in the two sectors is the problem of inequality and injustice. On prices, the *Committee* has added nothing new. There is need *for more thought on supply,* diversification and management in this regard.

Prices and Anti-inflation: The wholesale price index in April registered a fall of 0.1 with the index number standing at 181.1 on April 29. Food articles registered a marginal decline, while non-food articles rose by 2 points, with minerals being stable. Sugar showed a fall of 1.5 per cent, as did tobacco and textiles, the last due to a fall in the price of cotton yarn, with handlooms, powerlooms, and jute manufactures following suit. Other prices remained more or less stagnant. The retail price index for Greater Bombay compiled by Economic Times shows, however, a rise of 1.4 per cent in April at 204.9. Among food items, cereal prices increased by 1.5 per cent, pulses 1 per cent, edible oils 1.5 per cent, meat, fish and egg increased by 3.4 per cent, while vegetable and fruits price increased *by 5.4 per cent, sugar by 1 per cent and* clothing by 2 per cent. The government's anti-inflation policy continued in May under which drug manufacturing units whose annual turnover exceeds Rs. 50 lakhs are not to be exempted from 1970 Drug Control Order fixing retail prices for their products; the distribution system is to be extended to cover supply of wheat, rice, edible oils, vanaspathi, sugar, kerosene, soft coke and controlled cloth, *through shops each of which will serve* 2,000 persons. The prices of the commodities in those shops most of which are subsidised, will be sold at uniform prices throughout the country. Another measure under study by the Union Finance Ministry is the dropping of regulations and controls which are not contributing to the national goals and the economy. On the credit and monetary front, RBI reports that money supply increased by 15 per cent during 1977-78—by Rs. 2,402 crores, from Rs. 15,609 crores to Rs. 18,011 crores (compared to the 18.8 per cent increase in the previous year). This increase had an inflationary effect in view of the

growth rate of industry which was only 5 per cent during the year. On the other hand, the busy season which concluded in May was a sluggish one for banks due to the low economic growth rate. Bank advances rose by 6.46 per cent to Rs. 14,731 crores (during November 1, 1977 to April 30, 1978), against the 8.17 per cent increase (Rs. 13,274 crores) in the previous year's busy season. The growth in bank deposits have been marginally higher at 10.98 per cent (10.48 per cent in the previous year). Hence the credit deposit ratio which was 73.8 per cent on April 29, 1977 dropped to 66.13 per cent on April 28, 1978. The banks' slow growth in advances together with the reduced rates on advances (compensated to some extent *by reduced deposit interest rates*) have reduced their profitability. RBI in its turn while noting the banks desire to increase their profitability is primarily concerned with accelerating the outflow of funds into the economy. While warning the banks against a run away rise in credit during the slack season, RBI has suggested that the comfortable resource position might be used to accelerate the flow of funds to the priority sectors. From mid May, RBI announced that RBI refinance will be available for food credit in excess of Rs. 2,000 crores instead of the current Rs. 1,500 crores. DTL refinance has been done away with, temporary accommodation being provided by RBI when needed at the Bank rate. Banks should deposit with RBI one half of the net aggregate amount accruing hereafter under the non-resident (external) Rupee account and Foreign Current (non-resident) accounts schemes on which RBI will pay a reasonable interest rate. This would be one means of controlling the *inflationary impact of the inflow* of resources from abroad on the two accounts, the 50 per cent deposits with RBI not being *available to the* banks for credit creation. On the other hand, RBI has increased the interest rate paid on the cash reserves of the bank, including the 50 per cent foreign account deposit to 6.5 per cent from June 1, 1978. The Bank's forecast of the performances of the economy in 1978-79 is that it will be moderate, with farm output at the record 1977-78 level, and industrial growth moving up from 5 to 6 per cent to 7 to 8 per cent.

Public Sector and Industry: An RBI study published in its February Bulletin shows that the gross profits of 89 selected central and 85 state government companies rose only by Rs. 2 crores, despite a rise of Rs. 961 crores in their total incomes in 1975-76, because the rise in income was offset by an equal rise in expenditure (Rs. 959). In view of the small increase in gross profits and consequent to the rise of Rs. 60 crores in interest payments and Rs. 30 crores in taxes, the total profits after tax fell by Rs. 70 crores from Rs. 173 crores to Rs. 103 crores in 1975-76. Hence the retained profits was Rs. 82 crores compared to Rs. 154 crores in the previous year. *The value of production and sales* of the Central units rose by 12.1 per cent and 16 per cent mainly due to mining, quarrying and engineering units. Of the 89 central units, 63 had operating profits which declined. The government's concern and worry at this continuing low profitability of the units was discussed at a meeting in May of the Chief Executives, when a discision to ensure adequate schemes for the huge investments and correcting slippages in time schedules and improving the professional *management of the unit was made.*

The Union government has also called on the units to formulate time bound action plans to adopt one or more District Industries Centres and make their expertise and resources available to promote the growth of small scale and rural sectors and ancillary industries. The growth rate of industrial production in the country is likely to be 5 per cent against the 5.6 per cent forecast in the Economic Survey (see Vol VIII pp 209-210). In 1976-77 it was 10.4 per cent. During April-January 1977-78, the index of industrial production increased by 4 per cent. The industrial deceleration is attributed to power shortage, capacity constraints, sluggish demand and consumer resistence to high prices and industrial unrest. Major cases of 20 per cent and over fall in production occurred in aluminium conductor, scooter tyres, seamless tubes, CT spun pipes, diesel engines and rubber machinery. Those which fell by 10-20 per cent were commercial vehicles, three—wheelers, machine tools and leather foot-wear. It is only in food processing, chemicals electricity and electric machines that production increased with high capacity use in ball and roller bearing, electric fan, grinding wheels, power driven pumps and paper and paper boards. RBI reports that 270 industrial units reported sick, mainly in the engineering and textile sectors. 172 were in the engineering industry with a total bank credit of Rs. 211.26 crores, followed by textiles (64), sugar (23) and chemicals (15). IRC has provided Rs. 30.34 crores help to 44 medium and 5 large undertakings to get them out of their sickness.

National Production Front:

Steel: The Union Parliament approved in April the restructuring of the steel mills and allied units in the public sector. SAIL, Hindustan Steel and other public sector companies dealing with steel, iron-ore etc. are now being set up as separate units, with a view ultimately to amalgamating them, according to the ministry. Also at the end of April, SAIL approved a scheme to augment the power generation capacities of three steel plants-Bokaro, Durgapur and Rourkela, with an outlay of Rs. 100 crores to increase their captive power capacity in the next 5 years. It is also proposed to make IISCO part of SAIL in view of its continuing losses, which amounted to Rs. 31.29 crores in 1977-78. One of the problems faced by the steel units is the fall in demand as a result of the fast rise in steel prices which occurred from January, and which ranged from 50 to 80 per cent and the controls on the distribution of some items. In the first two months of the current year, there were few takers of the steel stocks. On the other hand, steel exporters had difficulty in obtaining billets which is the main raw material for re-rollers. The international price of re-rollers has risen fast in the Middle East and if the orders cannot be filled promptly, the orders for billet exports will decline. The working group on the steel industry set up in September 1977 reported in April that the target of 75 million tonnes to be attained by 2000 AD established in 1976 May (Vol VI p 311) be reduced. Working on a growth rate of 9 per cent, the Sixth Plan target is set at 15.45 million tonnes of ingot in 1982-83 and with a lower rate at 20.4 million tonnes in 1987-88. The group recommends optimising of capacity use in the units, modernisation and replacement of equipment, technological and qualitative improvements, cost reduction measures, more R and D and additional in power generation capacity.

The continuing schemes include expansion of the Bhilai and Bokaro to 4 million tonnes, the first stage of Salem, modernisation of the hotstrip mill and installation of an additional 50 tonne arc furnace at ASP, Durgapur, a new coke oven battery and other rehabilitation schemes for the plant, mines and collieries of IISCO. The mini steel plants with an installed capacity of 2.88 million tonnes produced 6,00,000 tonnes in 1974-75 and 1975-76, rising to 1.16 million tonnes in 1976-77 and 1.2 million tonnes in 1977-78. In that year the total production of integrated steel mills was 8.6 million tonnes of ingot and 7 million tonnes of steel. This represents an increase of 2 per cent in terms of ingot and 1.1 per cent in saleable steel over the production of 1976-77.

Crude: For 1978-79, the indigenous production of crude is estimated at 12.70 million tonnes (2 million tonnes more than last year) and the refineries output at 27 million tonnes. 15 million tonnes are to be imported (marginally higher (14.8 million tonnes) than last year) along with 3 million tonnes of petroleum products. By early May the import of 10 million tonnes of crude and 1.5 million tonnes of petroleum products were finalised (3 million tonnes from Iraq, 1.1 million tonnes from Saudi Arabia, 1 million tonnes from UAE, 1.5 million tonnes from Soviet Union and 3.3 million tonnes from Iran). Iran negotiations to import another 2 million tonnes on credit terms or lumpsum payment, are underway which will enable Iran to participate in the east coast alumina project, paper and pulp factory at Tirupura and the second stage of the Rajasthan canal. The demand for petroleum products for the current year is estimated at 28 million tonnes compared to 26 million tonnes last year. Prospecting for crude is being intensified. ONGC has decided to go on its own in the Cauvery basin abandoned by the Asmara group of Canada. It has commenced offshore drilling in the Karaikal coast, using the US drilling ship "Gettysburg". Also drilling in the Kerala offshore area, 50 miles to the north west of Cochin using Discoverer III has gone down to 1,600 metres as well as in a second well which have not produced oil. It will make further seismic surveys to locate more precisely the reservoirs and drilling on that basis may be resumed after the monsoon. Two of its locations north and south of Bombay have struck gas whose use is now being planned. Crude production from Bombay High which had been suspended for 6 weeks to construct the sub-sea pipe line to platform F is now resumed and with the completion of phase III A crude production from the area will go up to 1,00,000 barrels per day or 5 million tonnes per annum. Simultaneously 4 well platforms and a central platform are being installed in Bombay High and 2 well platforms and a production platform in North Basin. With a view to conserving the country's crude reserves, use the growing foreign exchange reserves to import more oil, take advantage of future crude price rises and meet the contested conclusion of the French Consultants that Bombay High's production is declining by 10 per cent, the Planning Commission while supporting the ministry's plans for producing at an annual 13 million tonnes by 1980, has advised the ministry to curtail production to 9 million tonnes in 1980. The government's negotiations with BOC for the takeover of Assam oil continued in May, centering around the recovering of outstandings from the company and the latter's demand for the compensation for the unexploited oil in its Assam

fields. At the beginning of May the merger of CALTEX with Hindustan Petroleum was finalised and officially registered.

Coal: COAL production in the country in the May fell by about 15 per cent. In May coal production in the eastern collieries declined from a daily average of 80,000 tonnes to 65,000 tonnes due to labour absenteeism and erratic power supply. The demand for coal was increasing and with the end of the Singareni strike, coal supplies in some parts of the country was expected to ease soon. The pit head stocks of coal in the country was 12.5 million tonnes, equal to one and a half months requirements of the country. Singareni's stock was 1.25 million tonnes, enough to meet a month's needs of the consumers attached to it. In addition to using wagons from all over the country to move coal from the north and later from Singareni to Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra, 24,000 tonnes of coal were moved to the southern states by ship. The Baveja panel on the working of coal companies submitted its report in May, recommending non-payment of bonus as the companies were losing concerns the reversion of the 1:2 debt-equity ratio to 2:1 for reducing the interest burden and a maximum saving of Re. 1 per tonne in the cost of production. It recommends a rise in the price of coal of Rs. 7.10 per tonne as the only way of avoiding the loss of Rs. 10 crores by Coal India in 1977-78. The last price rise was in July 1975 (see Vol V p 398), when an average increase of Rs. 17.50 per tonne over the price of Rs. 47.42 was approved. Since then the cost of production has further increased due to rise in the price of stores, machinery, spare parts and power tariff and wages. Meanwhile, a further problem faced by Coal India is default on payments due to it, Rs. 12.70 crores by the Railway, Rs. 28.4 by Bihar and Uttar Pradesh Electricity Boards and DVC, Rs. 33.74 by steel plants, Rs. 19.1 crores by MMTC, Rs. 16.4 crores by Defence and Rs. 58.9 crores by others. This should be speedily settled and the agreement for the bulk consumers to make advance payments for 15 days' supplies should be enforced.

Copper: The country's copper production will be increased by 50 per cent when the Rs. 91 crores Malanjkhand copper project in Madhya Pradesh is commissioned within four years. The Mineral Exploration Corporation (MEC) is undertaking a detailed exploration of the Malanjkhand copper deposit on behalf of Hindustan Copper. The deposit according to MEC contains 60 million tonnes of copper ore with 1.35 per cent copper content. A large scale, medium and fully mechanised open cast copper mine is to be opened at the site to produce 23,000 tonnes of copper per annum. It will provide direct employment to 2,000 people and further indirect employment in subsidiaries and ancillaries.

Aluminium: Aluminium production which was 1.8 lakh tonnes in 1976-77 is expected to increase to 2 lakh tonnes in the current year. The installed capacity which is adequate to meet the country's demand for 2.5 lakh tonnes is not able to do this because of the serious power shortage that the industry faces. In fact the power cut has forced the country to import 30,000 tonnes of aluminium this year so far and this is likely to increase to 50,000 tonnes for the year at a total cost of Rs. 50 crores. This is exactly the amount of idle capacity faced on

BALCO as a result of power shortage. Its idle capacity is 50 per cent of the installed capacity of 75,000 tonnes *per annum*. By *early* June another 25,000 tonnes would be readied but would be unused if the power shortage continues. BALCO has so far invested Rs. 260 crores in Korba which should begin earning a profit by 1981 when it achieves a production level of one lakh tonnes per annum. By September the feasibility report on the Rs. 800 crores Orissa project with an *annual capacity* of 8 lakh tonnes alumina and 1.8 lakh *tonnes of aluminium* is expected to be ready. Also by March 1979 the feasibility report for a 6 lakh tonnes aluminium plant in Andhra Pradesh costing Rs. 400 crores should be available. Both these projects will generate 16,000 man years of employment.

Sugar: Sugar output in 1977-78 is estimated at a record 60 lakh tonnes due to the bumper cane crops, leading government to advance special concessions to induce sugar mills to crush cane during the lean season. That is government has granted excise duty exemption on excess sugar production during the May-September period. In the first 6 months of the season commencing from 1977, sugar production was 45.26 lakh tonnes, and as a result of the lean period concession, the output will reach 60 lakh tonnes. But this increased production has increased the closing stocks which at March 31,1978 stood at 39 lakh tonnes compared to 28.95 lakh tonnes in March 1977 and in *turn has led to reduced prices being paid* to the cane growers which was less than *the prescribed* price of Rs. 8.50 per quintal on the basis of 8.5 per cent recovery. This in turn has hit cane producers who are left with surplus cane. Increased sugar releases to reach the *rural areas have not* succeeded because of the lack of purchasing power in the countryside, so that internal consumption is not likely to exceed 45 lakh tonnes. Availability of cheaper khandsari is also a constraint on sugar demand. 6.50 lakh tonnes are being exported, but even this has to be heavily subsidised as the Indian sugar price is the highest in the world. There is a case for the subsidy being used to increase domestic consumption of *sugar which, on a per capita basis,* is among the lowest in the world.

District Industrial Centres: On 1, 112 District Indusirial Centres (DIC) started functioning in 112 districts in 11 States, increased to 200 centres by the end of May and to be further increased to 400 centres by the end of the year. The Centre is a single institution which will meet all the needs of the entrepreneurs to set up new industries. It will help them prepare project reports, obtain land and credit from financial institutions and banks, get electricity sanctions, and procure raw materials and machinery. The programme implements the section of the new Industrial Policy (see Vol VIII p 72) to promote cottage and small industries through a net work of DICs. The Union government is providing a major portion of the financial assistance to the States- construction cost of Rs. 2 lakhs, vehicles, furniture and equipment of Rs.3 lakhs and 75 per cent of recurring expenditure upto a ceiling of Rs. 3.75 lakhs, with the State government providing the land and the remaining 25 per cent of the recurrent cost. The centre is headed by a General Manager and seven functional managers to work on economic investigation, raw materials, machinery and equipment, credit, research extension and training, marketing and

khadi and village industries. There will be State level co-ordination committees to supervise the state centres, regional committees of neighbouring states for exchange of information, and a central co-ordinative committee comprising the Industries Minister as Chairman and representatives of the Planning Commission, Finance, Industrial Development, IDBI, Handlooms, Khadi and Village Industries as members to review the policies and programmes of the centres. This is an important break through in the development of small and cottage industries and it is now certain that all districts will be covered by the end of the Plan period.

Fertilisers: Fertiliser production in 1977–78 was poor and short of the target. Sindri produced 9,400 tonnes against a capacity of 90,000, Cochin produced 10,800 tonnes against its capacity of 40,000 tonnes in nitrogenous fertilisers and 29,100 tonnes against 1,14,000 tonnes of phosphatic fertilisers, Durgapur was 51,000 tonnes against 1,52,000 tonnes, Tuticorin 17,700 tonnes against 51,000 tonnes and Neyveli 41,100 tonnes against 70,000 tonnes (Trombay, Namrup and Ennore, however, produced in excess of their capacity.) The reason for their poor performance is ageing equipment, power cuts, labour unrest, technological deficiencies and constraints. On the other hand 1 lakh tonnes of imported fertilisers were lying around in Southern ports without being cleared for over a fortnight in May (41,000 tonnes in Tuticorin and 7,000 tonnes in Nagapattinam.) The main reason, it is reported, is shortage of wagons and the sudden diversion of some ships from Bombay due to the agitation of pilots in that port. This must be cleared as another 2.7 lakh tonnes will land in June in these ports. From January – April 1978, the southern ports handled 4.48 lakh tonnes of fertilisers for Fertiliser Corporation of India.

Agricultural Production: Wheat production by mid May was 2.3 million tonnes, as against 1.2 million tonnes at the point in 1977. (By March 20, it amounted to 3 million tonnes). In Punjab the daily procurement was 1.7 lakh tonnes, which till mid May amounted to 14.4 tonnes against 6.7 lakh tonnes in mid May 1977. In Haryana the daily procurement was 40,000 tonnes and the total 4.7 lakh tonnes, compared to the previous year's 3.4 lakh tonnes. Similarly the purchases in wheat amounted to 3.3 lakh tonnes which are more than double the corresponding purchase of 1.5 lakh tonnes last year. The peak procurement season is yet to begin, it is traditionally mid May to mid June. These procurement trends give the Union Agricultural Ministry confidence in the correctness of its estimate that the 1977–78 foodgrains output would be 125 million tonnes comprising 77 million tonnes for kharif (as against 73.9 million tonnes in 1974–75) and 48 million tonnes for rabi (as against 47.1 million tonnes in 1975–76) (see last issue p 272). The Finance ministry and Planning Commission feel that this is too high an estimate and that the output will 'be nearer 121 million tonnes. On the wheat procurement showing as at May, it looks as the rabi estimate of the Agricultural ministry may in fact be an under estimate and its total estimate might well prove right. The exact production figure will make a difference to the national income performance. At 121 million tonnes, there would be an increase of 9.5 million tonnes over the

1976–77 production of 111.5 million tonnes, and the national income will show a rise of 5 per cent as the Economic survey and RBI study earlier referred to forecast. If it was 125 million tonnes, the national income increase would be 6.5 per cent. The figures of actual rabi production will be known in September. In Haryana, the farmers complain of the price. Food Corporation of India which is purchasing about 15 per cent of the total quantity, it is alleged, is offering Haryana farmers lower prices than Punjab farmers. Food Corporation of India denies the charge, but points to the low quality of some Haryana wheat for which it paid Rs. 105 against the support price of Rs. 112.50 per quintal, while for some qualities of wheat in Punjab it paid Rs. 136 per quintal. One reason for the low Haryana price in some instances is that the landless labourers who get their wages partly in wheat, sell it without clearning through contractors to the Food Corporation of India. In the traditionally non-wheat growing states like Assam, Manipur and West Bengal increasing quantities (about 96 per cent of the output) is being offered to the government and public agencies at the support price of Rs. 112.50 per quintal. By early May, West Bengal purchases amounted to 5,868 tonnes (against 28 tonnes in the previous year) and Assam and Manipur purchases were made for the first time and amounted to 204 tonnes Farm strategy for the coming kharif crops has been set forth in a communication from the Union ministry to the States as aimed at increasing the area under paddy and boosting the production of pulses and groundnut, so that the total production should not fall below this year record of 77.39 million tonnes and the total higher than this year 125 million tonnes. It has urged Bihar, Orissa and Madhya Pradesh to advance the time of paddy sowing so that the short duration paddy yield will be larger. The nursery saving programme is to be taken up on a massive scale in the last week of May and the National Seeds Corporation has geared itself to make available high quality seeds of various crops to cover 8 lakh hectares in the kharif season. NSC seeds include hybrid maize, jowar, bajra, paddy, jute and vegetables to which the seeds developed by the State organisations should be added. N[illegible] has strengthened its dealers net wo[illegible] opened more sales counters and a[illegible] distribution centres to strengthen its distribution net work. Seeds are being supplied in small packets to cater to the needs of small farmers, by VPP for vegetable seeds, distribution over 2 lakh hectares for jute seeds, over 1.2 lakh hectares for maize seeds, 1.2 lakh hectares for HYV paddy, 2 lakh hectares for bajra and 1.6 lakh hectares for soyabean. Fertilisers consumption during the kharif season is expected to increase and the government has mobilised adequate stocks to meet the growing demand which will be met in full with the supplement from imports. Power supply is to be ensured and the Union ministry is also ensuring and adequate supply of diesel. On this basis micro level plans, credit plans, and package of practices for each crop and training of extension staff and farms are being undertaken along with steps for the timely release of canal water for the rice nurseries and transplantation beginning at the end of May. As noted in the last issue, with the record output, the problem of storage becomes urgent. The Food Corporation of India will build new storage capacity of 3.2 million tonnes to ensure supply of good quality grains and as a means of

replacing storing by private contractors. The World Bank credit will be used to meet the cost of Rs. 350 crores. Three States—West Bengal 2.5 lakh tonnes, Bihar 2.5 lakh tonnes and Orissa 1.25 lakh tonnes have been selected for this purpose. The time lag between procurement and release of foodgrain is about 23 months and unless adequate storage is ensured there is deterioration of quality. Also to ease the problem of storage, the Union ministry has decided to reduce the buffer stock from 12 million to 10 million tonnes, which will relieve the storage problem during the coming 2 years, after which additional storage capacity will be ready. As at April 1, foodgrain stocks with the government were 15.6 million tonnes, of which 12 million tonnes were buffer and the remainder operational stocks. It will be recalled that the expert committee has recommended that the operational stocks should be 8.5 million tonnes on July 1 and 3.5 million tonnes on April 1. The reduction of stocks to 10 million tonnes will mean that by July the total will be 18 million tonnes, instead of 20.5 million tonnes. FCI's storage capacity has been increased from 8.14 million tonnes in October 1975 to 20.74 million tonnes by March 1978. In 1977-78, 3 6 million tonnes of capacity was added including 2.2 million tonnes taken over from the private sector on hire. Out of the total capacity of 20.74 million tonnes in March 1978, 13.4 million tonnes are under cover. The supply of the 50,000 tonnes wheat loan to Afghanistan is another means of reducing the growing stocks.

Exports: The country's balance of trade might show a deficit of Rs. 600 crores with the final figures of exports at Rs. 5,400 crores and imports at Rs. 6,000 crores. Exports during 1977-78 are estimated at Rs. 5,450 crores, compared to Rs. 5,143.35 crores in 1976-77, involving an increase of 6.1 per cent against the growth rate of 27.2 per cent for 1976-77. Among the reasons for the lower growth rate of exports are the fact that there was no export of sugar, HPS groundnut and lower export of groundnut extraction. Against the export of 1 million tonnes of groundnut extraction in 1976-77, in 1977-78 there was the export of 2.5 lakh tonnes only, bringing down its domestic price from Rs. 2,200 a tonne to Rs. 1,200 a tonne. Against the export in 1976-77 of 50,000 tonnes of HPS groundnut, there was no export of the commodity in 1977-78. Another reason for the lower exports growth rate is the decision to reduce cash subsidies which in 1977-78 was Rs. 311 crores and in 1976-77 was Rs. 226.62 crores. As noted earlier the government has rightly decided not to expand sugar exports by increasing its subsidy. Further there has been a reduction also in the trade plan outlay for Indian imports by the USSR and the Eastern block countries. As the wheat loan from the Soviet Union was repaid in kind and there was less cash, USSR reduced its imports on leather foot-wear and tobacco from India. Finally the increasing protectionist trend in US, Canada and Europe has also lowered the country's exports. In this connection one disturbing element is the increasing number of complaints about the quality of Indian goods from foreign buyers. USSR, US, Kenya, Algeria, Afghanistan, Ethiopia have complained about the quality of marine products, chemicals, fruits and vegetables exported from this country. In addition to taking up these complaints with the Export Promotion Council and Commodity Boards, the government is planning to

introduce legislation making export of sub-standard goods a penal offence. The government has announced a target of Rs. 5,800 to Rs. 6,000 crores for exports for 1978-79, which is an increase of 6 per cent over that of 1977-78. Jute exports which had declined from 15 per cent of total exports to 5 per cent should be helped to rise again and are expected to be Rs. 30 crores more than last year's exports. Tea exports as will be noted later amounted to Rs. 556 crores in 1977. The Union government is studying the question of restoring cash subsidy for hessian exports to support and expand the export of 15,000 tonnes of carpet backing and 5,000 tonnes of sacking and to stop the fall in April to 31,500 tonnes from 54,900 tonnes in April last. Total despatches in April were 82,000 tonnes and 1,08,500 tonnes in March. The hessian exports fell very sharply to half of the March exports. The government has also decided to allow mutton exports this year at a medium price of Rs. 12.50 per kg., Iron-ore exports to Japan will be maintained at last year's level of 9.2 million tonnes despite a recession in the steel industry, and on that basis the year's target is fixed at 13.2 million tonnes. The two governments have agreed. Soviet Union is importing Rs. 10 crores of Indian textiles. Cotton textiles export which were Rs. 550 crores in 1977-78 are likely to increase this year. The government has also issued guidelines for the distribution export quotas to the US and EEC of fabrics and readymade garments. Also the government has advised exporters about trading with some Canadian firms and in order to avoid being cheated by them has issued appropriate guidelines. It has also in early May fixed the minimum prices for export of leather goods. India and Norway signed an agreement on export of Indian textile including goods of cotton, wool and manmade fibres. Export of spices jumped from Rs. 25.86 lakhs in 1975-76 to Rs. 235.39 lakhs in 1976-77 and are likely to reach Rs. 2,000 lakhs in 1977-78. The major spices exported are pepper, cardomom and ginger. Engineering goods exports in 1977-78 rose to Rs. 625 crores (from Rs. 552 crores in the previous year), the south, however, showing a stagnant export trend of Rs. 85 crores and Rs. 84 crores in the two years. Woolen goods exports are declining, the export target being reduced for this year from Rs. 127 crores to Rs. 115 crores mainly to reduction of USSR's imports of woolen knitwear. There is a large untapped EEC market for woolen yarn, blankets and other woolen fabrics. This should be pushed. In Indo-US trade there have been a number of GSP changes. In 1977 nine Indian items were excluded from the GSP list of the US because of the operation of the Competitive Needs Criteria (CNC). For 1978 they meet this CNC requirement and are included. The items include sugar, jute, lugguage locks and forks without handles. On the other hand, 16 items have become ineligible this year because of the export limitations set by CNC. They include goat skins, coir coverings, mica fuse and cane seat sticks. The government announced in May the setting up of the Empowered Committee Secretariat to process and clear applications for import of capital goods under the governments' new liberalised scheme. Under the scheme, there will be free import of capital goods and exposure of selected Indian capital goods industry to a measure of international competition. Among the capital goods for 13 industries and 100 per cent export oriented industries under this scheme are

included fertilisers, newsprint and paper, basic drugs, sugar, cement, power generation, transmission and distribution. This will be the means of reducing a high cost structure and test the competitive character of the capital goods industry of the country. The government has also under consideration the setting up of the Foreign Trade Development Bank of India to meet the fast changing highly specialised and sophisticated financing of the country's export trade. It is to be an Export-Import Bank to supplement the banking and non-banking services of the commercial banks. The scheme is under review by the Ministry of Finance. RBI announced that the country's foreign exchange reserves excluding SDRs and gold coin and bullion was Rs. 4,500 crores on March 31, 1978. SDRs and gold amount to an additional Rs. 350 crores. By May, the reserves will cross the Rs. 5,000 crore mark. The rate of increase of the reserves can be seen from the fact that they were Rs. 3,998.30 crores in December 1977, Rs. 4,038 crores on February 24, and Rs. 4,136.50 crores on March 3 and Rs. 4,500 crores on March 31. The earning from the reserves amount to Rs. 190.94 crores for the year ending June 30, 1977 and Rs. 141.04 crores for the half year ending December 31, 1977 (an average yield of 6.10 per cent).

Aid : May was the month of preparation by the World Bank for the Aid India Consortium meeting in Paris on June 8 and 9. The Bank recommends that for 1978-79 the members of the consortium maintain their aid of the 1975-78 period of $ 1,000 million in real terms which is $ 1,200 million to be matched by $ 1,200 million by the World Bank. The Bank's review of the Indian economy for the consortium meeting refers to the country's favourable, factors, large food-grain stock, high and rising external reserves, excellent crop expectation and price stablity in which the flow of external assistance will be the means of equilibrating saving and investment and balancing the external payments. India's Sixth Plan strategy is endorsed, the 4.7 per cent growth rate is characterised as being realistic, the centre piece of rural development and allocation of major part of the Plan resources for improving the living conditions of the people are commended. The balance of payments situation is favourable due to the expanding Indian work force in West Asia. From $ 257 millions in 1974-75, the remittances increased to $ 470 million in 1975-76 and to $ 1,000 millions in 1977-78. Other components of the invisibles are the investment income and the net receipts from tourism, and transportation. The rapid rise in development expenditure, the bank points out will bring the economy to a more dynamic growth path, but it will also advance the date from when the growth of the economy will once more be resource constrained. That is, the trade deficit and the current account deficit will reach high levels during the second half of the Five-Year Plan period. In this context, the net transfer of resources from abroad to India has never been more than 3 point of the GNP and between 1969-70 to 1973-74 was 0.8 per cent. During the next 5 years, debt repayments will be $ 450 to $ 500 millions. India's population policy which is now getting back to its previous level should enable the birth rate to fall from 37 per 1,000 to 23 per 1,000 by the end of the century when the population will be 885 million. The decline in fertility will change the age structure, so that the school age-group will grow more slowly or not at all after

1981, reducing the pressure on primary and secondary education. But the labour force will continue to grow at a faster rate—2.5 per cent per annum well into the 1990s increasing the proportion of the population in the labour force from the present 40.8 per cent to 45 per cent. On the future of agriculture and food production, there have been 3 excellent crops and the reserves can stand two drought years, but whether the agriculture is on an investment base, remains to be seen, though irrigation, fertiliser and HYV seeds consumption are expanding. Prices have been stable but some basic consumption items like pulses, edible oils, meat, dairy products and textiles have shown rising trends. Industry is stagnating and this needs attention. The report is a favourable one, perhaps a little too favourable but will serve the Paris meeting. In May IDA announced a credit of Rs. 120 crores for the Bhatsa (Bombay), drinking water project. Also UK announced a grant of Rs. 75 crores for purchase of goods and services for the development of the country's electric power industry.

International

World Monetary Reform: A meeting of the world's Finance Ministers constituting the IMF interim committee met in Mexico at the end of April and agreed on certain generalities on reviewing the world economy, probably got one or two countries to agree to act on those recommendations but reached no agreement on the major demands of the developing countries with regard to the membership quotas, a drastic revision of the Fund's rules cencerning loan to member countries, and the Managing Director's proposal for mopping up a part of the surplus dollars with interest bearing but non-negotiable SDRs. At the level of generalities, the meeting warned that the world faces a vicious deflationary spiral unless economic growth is speeded up (here is the pay off for the zero growth rate advocates), massive imbalances in world trade are corrected and the drift towards setting up protective trade barriers is resisted in a determined manner. At this level, the minister state that they reached consensus on the general outlines of a co-ordinated strategy to promote non-inflationary growth of the world economy leading to higher employment, reduction of imbalances in international payments and conservation of energy. In practice it is hoped that the gap between the US and West Germany was narrowed with West Germany and Japan agreeing to do more to stimulate their economics and increase their imports, and the US to reduce its higher deficit trade balance, and other countries such as UK, France etc., regulating their exchange rates. In fact there is now emerging an EEC Plan, this time with the support of West Germany and UK for an enlarged EEC currency zone, which in the absence of a world monetary reform, will give Europe a cohesive monetary system. More will be known when the summit of the industrialised countries takes place at Bonn in July. On the three points of concern to the developing countries there was no agreement. The rich countries want only a 30 per cent increase in IMF quotas., that they feel will be heavy enough for them (US 1,700 million SDRs, West Germany 556 million SDRs, Japan 459 million SDRs, France 419 million SDRs and UK 125 million SDRs). The developing countries want a doubling of the quotas to give the Fund more resources for lending to them. So this

issue was referred back to the IMF. The proposal for making the Fund rules a little less rigid in regard to loan conditions wherein the Fund asks them to reduce their growth rate and go in for a dose of deflation in return for a loan, so that there could be some possibility of the Fund helping them to expand their economies and employment even on a deficit basis; it was however a non-starter. The Managing Director's proposal for a substitution account to allow central banks to exchange some of their dollar holdings for SDRs as a means of mopping up the surplus dollars to some extent also was turned down. West Germany and Europe and even the developing countries wanted the US first to give assurance for better and richer management of the economy, while the US wanted to link the additional SDRs to the membership quota giving it a large advantage. Hence this proposal was also referred to the IMF board. The meeting was on the whole fruitless. On gold sales, the Fund announced in late May that from its next sale on June 7, it will be reducing the amount offered in the monthly auction from 573,000 ounces to 470,000 ounces. From April a new IMF amendment permits direct gold purchases by developing countries on a limited basis. Hence the reduced quantity put up for auction will allow the Fund to allow developing countries to submit non-competitive bids upto 1 lakh tonnes.

UN Law of the Sea: As noted in the last issue of the Bulletin (p 279), the resumed session of the UN Conference on the Law of the Sea concluded its seventh session without reaching agreement on an operative text. The two principles on which there is agreement is that the wealth of the sea belongs to all of mankind and coastal states are entitled to exclusive rights on offshore waters upto 200 miles of the coast. There is also agreement that there should be a Sea Bed Authority. But the texts on these issues and other related questions are still not the subject of agreement through the consensus method which is a very difficult method to follow when dealing with 138 nations. When the full report of the Conference is available, a further report will be made.

World Oil: OPEC on the one hand announces that from this year there will be a reduction of 20 per cent of crude production to 26 million barrels a day by the OPEC countries as a mean of conserving the oil reserves. On the other hand, the World Bank and the Institute of Energy call attention to the latest estimate that proven reserves and oil that has not yet been discovered but is known to exist amount to 5 billion barrels which is a big increase over the 2 billion barrels estimate current till recently. Proven reserves are estimated at 600 million to 1 billion barrels, sufficient to meat 30 years' supply at current consumption rates. Of course, the reserves are now coming into the estimate because OPEC has raised the price to over $ 12 a barrel: this makes oil from the North Sea and Alaska feasible, Mexico's proven reserves have increased from 3 billion barrels to 17 billion and now to 80 billion barrels, which is half of Saudi Arabia's (the largest oil exporter) reserves. The sedimentary basins or river beds of Argentina and Brazil are held to contain oil fields equal to that of the middle east. In fact a World Bank study points out that the vast sedimentary areas that contains 75 per cent of Latin American petroleum resources, 80 per cent of Africa and 95 per cent of Asia are yet to

be intensively prospected and developed. Compared to the 14 among the developing countries now producing oil,50 to 60 per cent of oil importing countries can produce oil and they can reduce their dependence on oil imports from 80 per cent in 1977 to less than 50 per cent in 1990 at a cost of $ 68.5 billion between 1976-1985 or $ 5.6 billion annually. OPEC at its meeting in May reviewed its support to IFAD, the common Fund for raw material price stabilization and IMF and expressed satisfaction at its loan programme which has so far benefitted 60 developing countries.

World Food: The Global Information and Early Warning System of FAO reports that 26 countries are currently faced with abnormal food shortages due to last year's shortfall in food production. They belong to the vulnerable Most Seriously Affected (MSA) countries and have a population of 230 million. They need a cereal import of 16.3 million tonnes, Africa includes the Sahed plus Ghana, Guinea, Guinean Bissau, Togo, Burundi, Ethiopia, Mozambique and Zaire and the main bottleneck here is transportation in the Sabelian countries and timely imports for Ghana, Guinean Bissau and Mozambique. In South East Asia, 35,000 tonnes are needed for Laos and 5,70,000 tonnes for Vietnam. All countries in a position to do so have been asked to send food or money directly to the country concerned.

Asian News Exchange: A metting of Asian News Experts in Teheran in May has set up a framework for the reporting of constructive news covering national efforts to overcome unemployment, poverty, hunger and disease and promoting peace and erasing racism and neo-colonisation. It has also aimed at covering the cost of news exchange between nations. National news agencies will be further promoted and/or created and a new Asian News Exchange Network (ANEN) is to be organised. These proposals will be taken up at the ministerial level conference of UNESCO at Kuala Lumpur from June 19 to 28. So far news agencies from 13 countries in Asia have declared their decision to join ANEN.

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II Agricultural Development

Paddy and Other Production:

The government's plans for increased paddy, millets, cotton and other crop production for 1978-79 now under way range from 3 to 13 per cent increases. Paddy production is to be increased by 3.2 per cent from 62 lakh tonnes last year to 64 lakh tonnes this year, millets from 19 lakh tonnes to 20 lakh tonnes, pulses from 3 lakh tonnes to 3.25 lakh tonnes, oil seeds from 14.90

lakh tonnes to 15.70 lakh tonnes, and sugarcane from 14 lakh tonnes to 14.30 lakh tonnes. These are an average increase of 8.3 per cent. Cotton is to be increased from 3.75 lakh bales to 4.25 lakh bales, an increase of 13.3 per cent. All this involves better water management, soil fertility management, crop pattern and management, distribution of quality seeds so that production per unit of land can be maximised. Strains reared in nurseries for all varieties of crops capable of facing even drought conditions are being transplanted over large areas. Demonstrations of better land and water management in every block in both wet and dry land, tools for carring out ploughing (there is the machine of 6 ploughs which can be operated with one pair of bullocks), seedling, interculture in dry and garden land are being demonsstrated along with cost reduction methods. The cause is the use of healthy super seedlings, efficient agronomy, integrated pest control, organic fertiliser and resource use-all being readied to go into operation for kuruvai. The government has planned to let in water in the river systems for the kuruvai cultivation in time. The government calls attention to the fact that in the season just completed, the principle of maximum yield with minimum fertilisers had been successfully followed by farmers in the State who got an average yield of 2,500 kg. of rice for 36 kg. of fertilisers used, compared to the progressive Punjab farmers where a lesser yield was obtained with 60 kg. fertilisers application. In this regard a special grant is being made to raise the per acre yield in Thanjavur which is as low as 1,500 kg. compared to Coimbatore's 2,500 kg. This is one reason for bringing 1 lakh acres in the district under compact block demonstration programme, using a package of chemical fertilisers, better seed and water management. Another aim in the coming year is to increase pulse production, where the state has not been producing enough to meet even 1/3 of its demand.

Research Results :

Sugarcane production and productivity are rather severely curtailed by the borer pests which, because they are entrenched in the interior tissues, connot be dislodged by pesticides and sprays. The Aduthurai station has experimented with parasite predators to counter this borer and the summer months which are also the cropping season as being the season to use them most effectively. To improve the killing effect of the parasite, the kind of feed to be given to it, the timing and quantum of releases of the parasite for the different agro climatic zones in which sugarcane is grown, and the measures to be taken to fight the moth borer which will tunnel themselves inside the cane as worked out by the Sugarcane Breeding Institute, Coimbatore and the economics of the alternative parasites for dealing with the borer or moth borer menace indicate that the cane farmer can deal successfully with this pest. Research has also been addressed to the persistent problems of irrigated soils all over the country—in Punjab, Haryana, West Uttar Pradesh, Orissa, Andhra Pradesh, Kerala, Maharashtra and Gujarat, namely salinity for which CSSRT has evolved a package of practices including levelling, breeding and treatment with gypsum, sulphuric acid, ferrous and aluminium sulphate, pyrites as well combined use of farm yard manure and gypsum, including applying rice husks. These push salinity under-

ground below 180 cm and prevent the rise of the salts. Further for such soils the most suitable anti-saline HYV are IR-8, IR-8-60 and Jaya in the medium duration group and Kannagi in the short duration group. Similarly among wheat varieties the Kalyan Sona and Sonali give a good yield. Also mustard seed, sugar beets and sugarcane varieties C-453, C-975 and C-1145 are tolerant of saline conditions. Where food crops cannot be raised, in some saline tracts, fodder crops, para and Bermuda grass, tolerate such conditions. A high yielding, drought resistant derivative of the cotton hybrid H-4 has been released by a Gujarat cotton grower. It has wide adaptations and is tolerant of drought conditions and can be grown in any area. The yield is 50 to 60 per cent more than that of other cotton varieties. About 2,500 seedlings are raised in polythene bags and then planted over an acre. It can be spread in Coimbatore and Pudukottai over a wide area and for this the government must provide some subsidies for the polythene bags for the marginal and small farmers. Research on the problem of wind and evaporation in arid tracts has shown that an adaptation of the traditional farming practice of using trees as windbreaks in such areas is possible. Trees are however a long term remedy, use water and nutrients and harbour pets and birds. A varient is using every crop as wind break-interplanting tall row crops with short ones such as red gram and groundnut, sunflower and millets. The wind break plant when properly desigend and spaced, retards the wind, slows down water evaporation and allows fully play for proto-synthesis. Wind breaks in those conditions should be aligned in rows perpendicular to the winds and should be continous across the entire field. The wind break should be a dense wall porous enough to allow air to flow through, but thick enough to protect the crop from the wind turbulence and its arid effect. Research at Koilpatti Cotton and Millet Experiment Station has shown that the use of potash while essential in growth and fruition of the plant, in the plants' use of nitrogen from fertilisers and in increasing photo-synthesis and protein farming activities, also acts as a pest resistant An increase of potash dosage by 60 kg. per hectare reduced substantially the fruit rot in the chillies that were grown in the station. Similar resistance to rice pests such as green leaf hopper, brown plant-hopper, leaf roller are reported by Annamalai University Agricultural College. As a result of research in the Apple Research Station, Kodaikanal, apples will become also a Tamil Nadu fruit soon. The research is aimed at improving the quality of the apples and also identifying the special variety suited to the Tamil Nadu climate and soil. The station has grown 150 varieties of apples, grafted some, and assembled others and put them on observation trial. These varieties include low chilling types from the US, Soviet Union, Australia, Spain and other apple growing regions, whose climate compares with that of Kodaikanal.

Seri-Culture:

The Tamil Nadu Agricultural University's study shows that the average per hectare cocoon yield in Coimbatore district is 895 kg. valued at Rs. 23,000. The cost per hectare is Rs. 13,000, so that the cocoon farmer gets a net income of Rs. 10,000 per hectare. There is scope for large scale extension of cocoon production. Seri-culture is at present a small industry restricted to Coimbatore,

Avinashi, Palladam, Dharapuram and Udumalpet taluks. In many ways sericulture is suited to small farms with little water and the water quality not suited for foodgrain cultivation. It is family labour intensive. For establishing and maintaining the mulberry garden and rearing silk cocoons, 67 mandays and 828 womandays are required per hectare. Rearing silk worms consumes 59.37 per cent of man labour and 60.5 per cent of woman labour. Sericulture is more labour intensive than other forms of farming. There are further vistas which research at the Beramphur and Mysore stations have thrown up. Against the per hectare cocoon yield in Coimbatore, the Karnataka yield is 3,000 kg. per hectare from rainfed lands which can go up to 30,000 kg. under assured irrigation. For better mulberry yield, Kanva-2 is more vigorous in growth, fertiliser responsive and prolific in leaf yield. Proper agronomic treatment, periodic pruning and proper harvesting of leaves are recommended. Also cocoon research has enabled an increase in yield from 20-25 kg. to 30-40 kg. and elimination of losses through proper housing, feeding of the silk worms, arrangements to suit climatic and humidity conditions, quality of the egg, incubation and hatching and other proved methods to increase production.

Agricultural Credit:

Agricultural credit in the State has grown from Rs. 5 crores at the end of the first plan, to Rs. 102 crores in 1975-76, to Rs. 125 crores in 1976-77 and Rs. 127 crores in 1977-78. 50 per cent of the credit goes to small farmers. For 1978-79, the government's plan is to make available Rs. 145 crores short term and medium term co-operative loans to farmers. But a problem has arisen. The overdues have increased. The overdues from the 4,742 primary agricultural credit societies have gone up from 17 per cent in 1974 to 56 per cent in 1976. There are small farmers who have been affected by drought, flood and cyclone and who are not able to pay and they should be given extensions. But as part of the farmer's agitation, large and medium farmers are holding back their repayment and this will have to be countered. For one thing, the RBI's rules involve no loan finance to societies which have over 50 per cent overdues and this was the main source of funds for the agricultural co-operatives of the state. Also the co-operative central banks are classified by RBI on the basis of the per centage of collection of dues and in the state all the 16 central banks except the one at Dharmapuri are classified 'A'. If their outstandings are increases, their borrowing capacity from RBI will be reduced and so will be their fresh loans to farmers. Hence there is an appeal to all agriculturists to pay back their co-operative loans by the end of June, so that the co-operative societies can service them more fully.

Animal Husbandry:

The live stock and poultry exhibition at the end of April was an occasion when all southern states participated in exchanging views on and exhibiting the results of their animal husbandry programmes. The exhibition was 69th regional show that has been organised, with over 200 entries in the cattle section, 150 entries in the sheep and goats section and 318 in the birds section. An Ongole bull from Andhra Pradesd and a Red Dane cow from Hosur were adjudged the best animals. The Murrar buffalo cow won a prize, as did the white cornish cockerel from Salem.

Tea:

The tea industry is now beginning to take advantage of the fecilities offered by the Agricultural Refinance Development Corporation (ARDC) due to the increase in tea prices and the target set by the Union government to produce 1,300 million kg. by 2000 AD. Till the end of March 1978, ARDC has sanctioned 38 schemes involving Rs. 14.74 crores financial assistance and Rs. 12.24 crores in refinance. By that date Rs. 46.5 crores were disbursed in 27 schemes and a further 17 schemes involving Rs. 7.15 crores were under consideration. ARDC is charging 8 per cent interest and the financing bank is being asked to charge the borrower 11 per cent with a repayment period over 15 years, starting when the scheme begins to pay off. The Tea Board and UPAI have also urged the government to increase the quantum of loans and subsidies to the plantation, including the replantation replacement subsidy scheme. The industry is now going forward with an investment and modernisation programme which is needed. One problem that the tea exporters have brought to the attention of the government is the fall in London tea prices which places the Indian exporter who has to pay Rs. 5 per kg. export duty at a disadvantage compared to the Kenya and Sri Lanka planters. The government has this problem under review and will be acting soon on the representation.

Coffee:

Coffee exports of 55,753 tonnes in 1977–78 earned Rs. 230.20 crores, a doubling over the previous year's earning of Rs. 114.04 crores with 47,522 tonnes and far away from the 1963–64 earning of Rs. 8.30 crores from 23,336 tonnes. This is mainly due to the sharp rise in international coffee prices which have begun to ease off since January, though still above the January 1975 level. The coffee crop in 1978–79 is expected to be 1,00,000 tonnes and will reach an annual level 1,30,000 tonnes by the end of the Sixth Plan. The small holdings share has gone up in the last few years from 35 per cent to 42 per cent, and will be 50 per cent by the end of Sixth Plan. As of now it seems that coffee export earning could be Rs. 200–250 crores on an annual export quantum of 50,000–60,000 tonnes during the plan period. The Coffee Board has drawn up a plan to raise coffee plantations over 21,400 hectares in non-traditional areas by the end of the Sixth Plan, 1983–84, with an outlay of Rs. 90 crores, of which Rs. 60 crores will be from financial institutions. The State governments concerned have been asked to set up Coffee Plantation Corporations. The ultimate aim is to increase the coffee cultivation area from the current 1.75 lakh hectares to 4.5 lakh hectares at a cost of Rs. 250 crores.

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III Industrial Development

Neyveli:

Neyveli Lignite Corporation is calling on foreign consultants to help it in preparing the described project report for the second mine cut project with an annual production of 4.7 million tonnes at a cost of Rs. 144.47 crores. The report will be ready by October, after which the government will take major decisions on the placement of orders for equipment and machinery for the project. After the Aid India Consortium meeting in July, the prospect for the availability of foreign credit will be clear, which probably will be from West Germany. Consultancy service for the 630 MW super thermal plant at Neyveli will be provided by BHEL and CEC, using the lignite from the second mine. This second mine cut is estimated to contain 370 million tonnes of lignite and the block chosen for the mine has 187 million tonnes of lignite which can be further extended to the East to bring in a further 183 million tonnes. Mining in the second mine cut will be through a system of 3 over burden benches and a fourth lignite bench to produce 2.35 million tonnes by 1982 and 4.7 million tonnes by 1983-84. The 630 MW thermal power station will have 3 generating units of 210 MW each. The first unit will be commissioned in 1981 and third by 1983. The power generated will be fed into the 220 KV grid of the Tamil Nadu Electricity Board and Central Electricity System estimates that the cost will be 20 paise per unit. The budget provision for Neyveli for 1978-79 is Rs. 19.47 crores (last year Rs. 25.98 crores) plus the improved international resources which it will use.

IDPL and HAL:

IDPL and HAL will be setting up joint sector drug units in various states in participation with state governments for the manufacture of formulations. IADPL will work in Uttar Pradesh, Punjab, Madhya Pradesh, Rajasthan, Jammu and Kashmir, Orissa, Bihar, Meghalaya and Tamil Nadu and the state governments have already approved the unit for starting formulation plants. Agreements have been signed between IADP and UPSIDCO and IADPL and Punjab SIDCO and joint sector units in Rajasthan and Madhya Pradesh. It is helping Madhya Pradesh and Jammu and Kashmir to set up phyto-chemical units, Orissa's Industrial Promotion and Investment Corporation to establish a phyto-chemical cum drug formulation unit, and a similar unit in the North Eastern States. HAL has submitted joint sector projocts to Maharashtra, Karnataka and Goa.

Tiruvannamalai Ores:

Following the survey which concluded in 1971, the Union government and UNDP have carried out geological, geochemical and geophysical surveys on the mineral resources of the Tiruvannamalai area (see Vol III p 260). Now it is established that main iron-ore deposits are in 2 hills, Kavunthimalai and Vediappamalai, eight km north of Tiruvannamalai. The total deposits are 60 million tonnes and the yield 36 per cent saleable iron. Beneficiation and pelletisation work on the ore samples show that the grain size of the ore is variable and pellets of satisfactory grain strength can be obtained by the addition of

0.5 per cent of bentonite. The pellets are suitable for blast furnace reduction. Using open cast mining on the mineral reserves of 62 million tonnes, waste removal will have to be 58 million tonnes and mining operation will produce 2.2 million tonnes of ore and 2.4 million tonnes of waste rock. The recommendation is to export the pellets. The mine life will be 28 years at the rate of 1 million tonnes of iron oxide pellets, capital costs are Rs. 27 crores and operating costs Rs. 110 per tonne. 8 per cent discount rate of return will be realised. It is a difficult mining technology which is not in use even in advanced countries, but if the taxation and financial policies allow for this, the project can break even. With the development of the Salem group of iron-ore and its processing complex and with the good infrastructure at Tiruvannamalai, the exploitation of the Kavuthimalai-Vediappamalai deposits should prove economic. This will have to be subject to a feasibility study. There are offers from a private company of Japan to mine these deposists. But first the Union and State government should make decisions as to whether this should not be a public sector project.

TAIC:

The Tamil Nadu Agro Industries Corporation started in 1968 has in 1977-78 doubled its turnover to Rs. 3 crores, earned a pre-tax profit of Rs. 87.80 lakhs and generated reserves of Rs. 45.72 lakhs. The unit has concentrated on the production of edible oils and associated products. An oil milling complex and a solvent extraction plant have commenced production and two vegetable oil complexes will be coming up during the year—all at a total cost of Rs. 2.76 crores. It is also setting up seven ancillary oil milling industrial estates as adjuncts to various solvent extraction plants with financial assistance from the Repatriates Bank and the Union Ministry of Rehabilitation. The 7 estates will cost Rs. 3 crores and employ 3,000 repatriates. The first complex will come up at Namakkal. TAIC is also planning a joint venture with a British firm to produce a multi purpose farm vehicle called Trantor which can be used as a tractor and for other purposes, with a capacity of 4,000 vehicles, costing Rs. 2.02 crores. It has also a two mill plant for formulation of pesticides at a cost of Rs. 3 crores. Other projects in the offing are a cotton jinning unit, a cattle feed unit, a fruit processing plant, manufacture of mechanical compost and maize based starch, glucose and dextrose and a tanning project.

Rural Industries:

The State government announced that it is considering placing rural industries under a separate department to disburse Rs. 11 crores provided in the 1978-79 budget as grants and loans for small and cottage industries. Under the scheme of rural industrialisation 2,300 carpentry and blacksmithies were proposed. Villages starting these units would receive Rs. 250-500 as grants and loan assistance to a maximum of Rs. 2,000 towards working capital. There are also proposals to start 10,000 safety match units, 1,000 cottage units for manufacture of toothpowder, soapnut powder, eucalyptus oil, 650 non-edible soap units, 4,200 bee keeping centres, 13,000 palmyra industries, 700 pottery workshops, 500 cane and bamboo centres, 400 tanneries, 230 hand pound rice units, 1,000 fibre works, 2,000 village oil

mundies with power ghanis and units for manufacture of *agarbathis.* District Industrial Centres (referred to earlier) are to be opened, shortly at Chingleput, Dharmapuri, Salem, Ramanathapuram and Tirunelveli.

Ancillary and Small Units:

Identification surveys by SIPCOT, SIDCO, Directorate of Industries and Commerce and SPIC in the Tirunelveli district has resulted in identifying 35 projects in the district as having potential an ancillary and small scale industries to cater to medium and large scale industries in the area. As the district abounds in salt works, salt bitterns can be used for the production of potassium chloride, sodium sulphide, bromine, sodium alignate, PVC products and oils and fats. At present potassium chloride is not manufactured in the country which imports annually 4.71 lakh tonnes. Also mechanical fabrication shops, general purpose engineering units, cast iron foundries and workshops to repair trawlers and small craft are also identified. A machine shop for instance, which can cater to the day to day maintenance jobs of major units and manufacture complicated spare parts would earn a profit of 15 per cent on its investment and 28 per cent on its annual turn over. The study has also suggested setting up units for readymade garments, machine tools, fish oil and meat, fire bricks, rubber processing units, rubber linning workshops etc. Now the government with the help of industrialists should act on setting up these anciliaries and subsidiaries.

Tiruchirapalli Development:

Another district, Tiruchirapalli and the disirict of Pudukottai have been taken up by Indian Overseas Bank for development. The Bank plans to invest Rs. 130 crores in the two districts on irrigating 12,000 acres, helping 2,70,000 marginal farmers and landless labourers and providing them with inputs and employment in the Tiruchirapalli district and developing the co-operative and simliar programmes in Pudukottai district.

Small Industry:

There is a disturbing side to the State's economic profile, which was referred to in passing earlier. That is, the rapid industrial decelaration and the rate of stagnation of the State over the past 10 years. One compensatory factor that is often referred to, is the flourishing and expanding small scale sector. But on the basis of the reports of the Tamil Nadu Small Scale Industries Association and the Tamil Nadu Small Scale Sick Industries Association, it must be noted that some 50 per cent of the 40,000 small scale units in the State are sick or about to become sick. The consequence of this on those millions of workers thrown out of employment and the crores of Rupees lost in production has not yet been estimated. The reasons of course are multiple: the high interest rates charged by financial institutions, the time lost in commissioning units, power shortage, lack of co-ordination between overlapping official agencies, lack of guidance to entrepreneurs, the overall sluggishness of the economy and the demand recession. This is the first task to which the government and the newly established District Industrial Centres should

address themselves. The starting of new small industries in this State is a lower priority to saving the 20,000 units now in serious difficulty.

Cement:

The cement units in the State faced a severe crisis in May. Six out of seven cement units faced closure due to coal shortage. Two major plants, AIC at Madukarai and India Cements at Attalaiyuthur closed down some kilns. The total monthly coal requirement of the seven factories are 77,000 tonnes, of which 55,000 tonnes come from Singareni. Production was maintained till the end of April but fell off in May and though towards the end of May the strike ended and the coal began moving to the units, there were still bottlenecks with the railway employees threatening to go on strike. Emergency plans are being put into effect, with a five day programme to provide the seven units with coal. At the end of May the four kilns which were closed down had not yet been re-opened. Cement production will fall by at least 12,000 tonnes in May (over the fall from 3.44 lakh tonnes in March to 2.64 lakh tonnes in April).

Paper:

A new paper unit, with support of Rs. 34 lakhs from IDBI, IFCI and ICICI and their further under writing Rs. 64 lakhs, leaving TIIC and SIPCOT to under write the balance of Rs. 15.5 lakhs was announced in May in the State Land for the factory has been acquired and civil work is in progress. The machinery is being imported from U.K. The project will start by June 1979.

Handlooms:

To spur handloom weaving and protect their interest, the Union government has decided to reserve 50 per cent of the next half year's (July to December 1978) garment quota for exporters of handloom. In turn the government has asked the handloom weavers to improve their performance and maintain standards and keep the time schedule expected by the foreign buyer. The new government policy raises the floor price for different garments which has also fixed on the basis of category, but also for the allotment of quotas against firm contracts, the government will now insist on a performance bond calculated at 10 per cent of the FOB value. Government has asked Texprocil to manage the distribution of quotas as per the new policy. The government has once more expressed its determination to give all encouragement to the 10 million people engaged in the handloom sector both through its negative decision not to allow any further expansion in the weaving capacity of the mill sector while expanding its spinning capacity, and make the Chairman of the Handloom Export Promotion Council a non-official who would help the Council to pay more attention to product development and market intelligence.

Leather:

The industry awaits the government's decision with regard to the year's target. For last year, the export target of Rs. 340 crores, based on the previous year's achievement of Rs. 303 crores was wholly unrealistic as the actual performance of Rs. 257.92 crores showed. A higher target for this year can be achieved, but for that the industry will have to be geared to meet the sophisticated foreign market demand. There is

still the slump in the international leather goods market. The government will have to go beyond the cash assistance (15 per cent) to leather goods exports and 10 per cent finished exports and the 5–15 per cent on foot–wear, if the industry is to make a break through in exports. Indian leather goods are in demand in Japan but only if the quality is satisfactory. TDAS survey of leather goods export prospects to Japan, Australia and New Zealand stresses this, and recommends that to break into the Japanese market orders may be secured from small Japanese importers. In Australia, Shantiniketan Leather goods and machine made wallets are in demand, and in New Zealand to climb over the protectionist wall contracts must be entered in to with local license holders. It is this kind country by country approach that is needed to expand the industry and its exports.

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IV Education, Science and Health

Examination Results:

May is the traditional month for publication af the SSLC results. This year's results show a pass of 59.3 per cent of the 2.5 lakh candidates who sat for the examination. The first two ranks are by backward class students from the mofussil. Girls have done better (64.7 per cent) than boys (56.3). 39 share the first 15 ranks, one third being from the backward, class and two from SC. 311 students secure 100 per cent in mathematics. Once more Madurai University area students with 64.2 per cent have done better than those in the Madras University area (57.2 per cent). The first Madras student is No: 4 followed by those in No. 5, No. 8 (two) 9 and 10. The results of the 10 year SSLC will be announced in June and it will be interesting to compare the performance of the two sets. May also being the vacation period for universities and colleges, reports on unrest in educational institutions are few. Many universities in the North continued to be closed. Utkal university was closed at the end of April as a result of students going on strike and a clash developing between students and police. A prolonged strike by medical students in April and May in New Delhi was settled after weeks of negotiations and the government giving in to most of the student demands. The students of Jawaharlal Nehru University on a deputation to the Prime Minister were assured that their complaints were being processed but the Prime Minister told them firmly that he would not support their demand for representation on academic bodies, like the academic council, the Court (syndi–

cate) etc. This incensed the students who proceeded to issue a statement denouncing the Prime Minister's position.

Educational Reform:

The State Committee on unrecognised schools (see Vol VII p 103) has submitted its report to the government. Its major recommendation is a phased abolition of unrecognised private schools or their convertion into recognised schools. In view of the teachers in those schools receiving very low salaries and being given very heavy work, it has recommended approved pay scales for teachers along with basic amenities for staff and students and use of approved text-books. The Committee dealt with 2,500 schools with 13,000 teachers and 4 lakh children. At the secondary school level, Central Board of Secondary Education accepting the Ishwarbai Committee's recommendations has provided that students entering class IX in the 1,500 schools under its jursidiction will spend 20 per cent of their time on Socially Useful Productive Work (SUPW). This and the physical cum health education course will have to be "cleared" by students to qualify for the secondary school examination at the end of class X. There is correspondingly a lightening of the other academic load, partly by removing economics and commerce off the list of 11 subjects and partly by eliminating several chapters from prescribed text-books. In this State, the major development was the announcement concerning the launching of the plus 2 stage. Towards mid May the State government published the list of 800 schools plus 20 Anglo-Indian and 10 matriculation schools which will have the Higher Secondary (plus 2) schools. 376 of them are government schools, 20 municipal and corporation schools and 404 aided schools. Higher secondary education will be tution fee free, except for English medium students who will pay a tuition fee of Rs. 20 per month for 10 months, with SC and ST students being exempted from it and backward class students paying half the fee. Only secondary schools which have English medium will be permitted to offer the English Medium at higher secondary stage. No new English medium sections is to be opened secondary schools this year. Angl Indian and Matriculation schools can charge upto Rs. 60 per month as fees. The vocational subjects at the higher secondary stage have been established as Agriculture, Home Science, Commerce and Business, Engineering and Technology and Health and miscellaneous. The syllabuses for farm forestry and forest products, leather technology, textile technology, music and foundation course for Health Science are to be published in June. Provision is also made for students of standards XI and X and PUC to adjust their time tables if they wish to sit for the National Talent Search Examination of National Council for Educational Research and Training. Higher secondary teachers will have to have a Master's degree in the subject and B.Ed. and in case of insufficient numbers, graduate teachers with experience will be used. No teachers will be retrenched as a result of the new pattern and surplus teachers will be redeployed. A state level 3 days workshop on the higher secondary course was held in Coimbatore and a similar course was organised in Madras to train and orient the teachers. The Commission on Medium of instruction of the Madras University held its second meeting

in May in Coimbatore and recommended that Tamil medium in commerce (B.Com) should be made available from 1979–80 and bilingual teaching to make Tamil medium instruction more available. Better remuneration and incentives are to be provided for the authors who write text-books in Tamil along with payment of a royalty. Also international terminology is to be freely used through transliteration until standardised terminology is achieved. For Tamil medium sections, no minimum strength for grant purposes need be required, it was recommended. The Tamil Nadu Text-book Society has so far produced 830 books for undergraduate and post-graduate courses in Tamil medium and has approved a discount of 50 per cent to colleges which purchase the books. The Commission has also recommended that some bonus marks in interview for government jobs should be given by the government to Tamil medium students. It has recommended setting up a cell within the university to look after the follow up work on its recommendations. With the increase in the price of paper which occurred in April/May, the price of notebooks and paper has been increased (20 paise for a notebook). Also the supply is a constraint. Against the requirement of 7,000 tonnes for educational purposes, only 3,200 tonnes were announced as available on concessional terms, of which 1,000 tonnes were actually made available.

Adult Education :

The National Programme of Adult Education – to educate and make self-reliant 10 crores illiterate adults in the age-group 15–35 – (see Vol VIII p 27) is now in its final stages of thorough going preparation. The Planning Commission has indicated its willingness to increase the Sixth Plan outlay of Rs. 200 crores, if that is necessary. The paper price increase will to some extent raise the estimated cost, as noted earlier, except that for this programme there may be assistance from the Scandinavian and other paper producing countries. The programme is mobilising all voluntary agencies, universities, colleges, Nehru Yuvak Kendras, Central Social Welfare Board, Farmers Functional Literacy and Agricultural Extension Programmes, SFDA, MFAL, DPDA, Health Workers etc. The programme is about ready to take off and all over the country training programmes are underway to train instructors and project officers for the programme.

Technical Education :

The Union government is developing a plan to review medical education so that it serves more directly the needs of the community. It requires medical colleges being involved in the direct delivery, health care and medical services to the community in the form of well knit referral service complexes. This will help bring about attitudinal change in the outlook and priorities among medical men and inculcate in them a spirit of dedication to the community. For the State, the government has decided no increase of seats in the medical colleges in 1978–79, along with a strict set of norms for admissions to the colleges. In JIPMER, admission to the MBBS course in 1978–79 will be for 30 seats against 60 normal admissions, because there will be no 11 year school graduates from North Indian States which have all shifted to the 10+2 system. The Madras University and the Medical Council of India have not agreed to the admission of students who finish the first year of

the higher secondary. Admitting 35 students from the higher secondary is also a problem because from 1979-80 the medical course is likely to become 4½ years in which case there will be two 65 first year students. Hence it has been decided to take in only 30 students this year.

Science :

There is a new emphasis of Farm research being field based. The International Rice Research Institute reports that 80 per cent of the research staff in China are involved with farmers in the field under the open door research policy. A similar trend should develop in agriculture research in this country. In the country, 383.71 lakh traditional ploughs, and 22.98 lakh iron ploughs are in use. In spite of the fact that the iron plough ensures good tillage of the soil and covers 2 acres in 10 hours instead of the traditional plough which makes only shallow furrows and takes 10 hours to cover 1 acre, the farmers prefer the traditional ploughs because they feel that the iron disc plough may be beyond the capacity of the work animals. In Madras a new type of disc cultivator was demonstrated in May which offers all the advantages of the bullock drawn disc plough but is not too weighty to be operated by even the small size bullocks. It is a blend of the traditional and the disc type, linking 2 specially designed discs through fish shaped cast iron piece to which a country plough share is attached. The Central piece is supported on ball bearings to provide frictionless movement of the discs without strain on the animals. The disc cultivator makes 15 to 20 cm deep and 45 to 50 cm wide furrow and covers 72.5 cm in one rotation. The equipment weighs 74 kg. exceeding the traditional plough only by 10 kgs. NAL Banglore has developed a new turbo power pack system with which sunlight is used to pump water and generate electricity. With the sun temparature at a low 60° centigrade, enough power can be generated by it to drive the turbine and generate one KW of power. The solar power pack can power a water pump for irrigation or drinking purposes for a rural community, or can be coupled to an alternator for generating electricity. CSMCRI, Bhavnagar has developed a solar plant with a capacity to desalinate 5,000 litres a day. The plant caters to the potable water needs of the village where no electricity is available and demonstrates the viability of the plant. The Regional Research Laboratory, Jorhat, has developed a new technique of constructing low cost houses with bamboos, scondary timber and cement mortar. The technique is called 'bamboo crete housing'. Pre-treated split bamboo matting is fixed to the timber framework in the wall and roof and plastered. The two room house has a plinth area of 33 sq. metres with kitchen, bathroom, toilet and verandah. It costs Rs. 5,500 and the cost of construction of such a house including services comes to Rs. 170 per sq. metre with an expected life of 15 years. Three organisations, IBP, BARC and ISAC, have developed India's largest thermovac chamber, indigenously desined and fabricated. This break through in thermovac technology tests reliability of components used in statellite. It is being used to test Aryabatta II, whose indigeneous content is 85 per cent.

Health :

The most distressing announcement by the Union government was the serious fall in the family planning programme

actuals in 1977–78. Against the previous year's 7,057,833 sterilisations, the 1977–78 achievement was about 1/10–7,85,748. This is a shock and has woken up all at the Union and states levels. Gujarat reports that 3.12 lakh voluntary sterilisations were performed, between January and March 1978. In April Gujarat had the highest number, 46,000 followed by Tamil Nadu 44,000 and Andhra Pradesh 37,000, Orissa 35,000 and Maharashtra 31,000. Kerala recorded 21,000 operations, Karnataka 20,000, Bihar 18,000, Madhya Pradesh 14,000 and West Bengal 11,000. Punjab had only 6,000 and Uttar Pradesh 5,000, which is discouraging. The national workshop on integration of population educatian in agricultural extension and rural development has recommended the setting up of population education bureau at the Union and State levels. The bureau should promote integration of population Education with rural development and agricultural extension and take on research, monitoring, and training, in co-operation with training centres and universities. Population education should be regarded as an integral part of rural development and agricultural development and pilot projects should operate as their bases. Audio Visual aids and other learning resource materials, activisation of voluntary organisations and involvement of academic and training institutions were other recommendations. The outbreak of brain fever in Tirunenveli and Ramanathapuram districts in an epidemic form has led to an intensive survey (epidemiological) by the Virus Research Centre, Poona. It has been identified as a Japanese virus, encephalities, which has occurred previously in West Bengal, Kolar and Vellore and which is now being brought under control. So far by early May, 282 persons had been attacked and 91 persons died—usually children below 10. On service conditions, the State government is now transferring doctors after 3 years service in one place in order to make their services available to rural areas. The questions of private practice by government doctors and that of honorary doctors in government hospitals are under study by the government.

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V Employment

The Estimates Committee of the Lok Sabha finds the NSS data on unemployment inadequate and outdated for devising and executing time bound employment schemes. Its critique of the NSS data from the operational point of view is: (1) it is dated in that it is published at intervals of 6 years, (2) it includes children who should be at school and not in the labour force,

(3) the 27th round conducted in 1972-73 and published in 1978 gives 3 estimates from 3 different angles, (a) 4 million "chronically unemployed" (b) 10.5 million "currently unemployed" and (c) current unemployed and visibly under employed as 19 million person days. Instead the committee proposes that a rough and less scientifically based figure should be published every six months and for this there should be a standing arrangement at the level of a village or town or taluk head-quarters in each state to assess the number of persons unemployed residing in that unit. This statistics can be collected by the Panchayat, municipality revenue officer assisted by the local teacher or gram sevak. This is a good suggestion, only it need not be a replacement of the NSS data which has been so carefully and scientifically built up, but a supplement to it. The Boothalingam Committee referred to earlier has proposed a direct employment programme for the rural poor. Half the rural population of 238.6 millions are below the poverty line (Rs. 53 per month). It does not favour an employment guarantee scheme because of the possibility of its abuse, the disinclination of the unemployed to accept charity and the danger that the cost might be too high. Instead, in what it calls a workable alternative it suggests that for adult members of landless families including artisans, whose households do not have the minimum income and adult members of families with less than a certain amount of land and whose total income falls below the minimum, cards or passbooks should be issued: (1) which would entitle them to a daily wage at the national minimum of Rs. 3.3 per day, (2) those who offer their work should work continuously for a week, (3) they should be required to do whatever they are asked to do, (4) even if there is no work or not enough work they should be paid and made to be present, (5) after the week, the worker should be free or even encouraged to seek a better paid job, and (6) for all this socially useful and economically viable local projects should be devised with required minimum of material inputs and so serve also the educated unemployed. This, rather elaborate scheme, is less workable than an employment guarantee scheme but could be tried out on a pilot basis along side of such schemes. The Union government in 1978-79 will expend Rs. 125 crores in the form of wheat under Food for Work programme for the creation of permanent community assets or for maintenance work in rural areas. 10 lakh tonnes of wheat will be used on this programme, along with a matching Rs. 75 crores by the State governments, so that the total investment of Rs. 200 crores will generate additional employment of about 400 million mandays at the rate of 2.5 kg. of wheat per head per day as part payment or whole for this asset. This will meet a large part of the rural underemployed or unemployed—particularly among the poorest section. It has been enthusiastically welcomed by the States. In addition to wheat, gur would also be supplied and the total gur required is being estimated. Tamil Nadu asked for rice but this has not been accepted because of the rice stock position, so that rice using States like Tamil Nadu, Assam and Jammu and Kashmir will not profit from this scheme. Tamil Nadu in its turn has drawn up a programme for providing employment to 30,000 workers in rural industries in 1978-79, as noted earlier. The Khadi and Village Industries Commission has agreed to give Rs. 11

crores for implementing the programme out of its total outlay of Rs. 50 crores; Tamil Nadu produced Rs. 12 crores of Khadi goods and 80 per cent of the country's palm industrial goods and so has a special position in the Commission. Another employment generating area is carpet weaving, which is being surrendered by Iran and the middle east workers because of the more lucrative petro dollar jobs. At present 1 lakh workers are engaged in carpet weaving and their exports earned Rs. 56. 4 crores in 1977-78. This could be expanded to provide additional employment to 1 million workers with an export of carpets of Rs. 200 crores. Similarly soap making, sericulture and other products can provide employment to 25 million persons at a low per capita cost of Rs. 3,000—Rs. 4,000 under some 96 schemes in 60 fields. An official survey reports that though women's share in total employment is low, it is slowly increasing. In 1971 they had 11 per cent of the total employment and in 1977, 12 per cent. Of 20.715 million workers in the organised sector in 1977, 3.49 million were women, mainly in food processing, textile spinning, weaving, laundry and sanitation. The study shows that laissez faire in the labour market which has transferred productive activities from the homes and cottage to the factories and machines has discriminated against women (as it has against SC and ST workers). While in the period 1961-62, the female work force increased in a number of modern urban industries by 6 to 10 times (mining, metallurgy, machinery manufacture and instruments, trade transport and banking) in other sectors horticulture livestock breeding, food processing, dairy products, jute textiles) they suffered a serious decline. During May while in the South the strike by the Kerala Electricity Board workers caused serious power disruption and decline in production, in Tamil Nadu the farmers' agitation was temporarily settled by the offer of various concessions on water, power rates, foodgrain support prices and increasing the number of procurement centres; the strike threatened by Pallavan Transport workers was averted by negotiations ending with increased wages and DA and subsidised canteen, free passes for children of the workers to go to schools and increased incentive for safe driving. The Indian Abroad Section of the CSIR National Register reports that of 20,946 foreign trained scientists, engineers and medical personnel in the Register, 10,203 have returned (9,571 on regular employment and 284 as pool officers) as at March 31.

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VI Other Items

Rajya Sabha:

During the first half of May, the Rajya Sabha dealt with the Appropriation Bill and Finance Bill, the reference to the latter having been made earlier. It also reviewed the Draft Plan for 1978-79—1983-84, and considered the report of the (Verghese) Committee on autonomy for AIR and TV. There was also a joint session of the two house for approving the Banking Commission Bill.

NAEP:

The final meeting of the working group on the National Adult Education Programme together with the Secretaries of Education of the States and Union territories and Secretary of the Planning Commission was held in Vigyan Bhavan at the end of May to approve the detailed document on the programme setting forth the facts on literacy, the past efforts, the instructional agencies, curriculam and training programme planning, the administrative and organisational structure, finance and the international dimension of the programme. There was not only a detailed review and approval of the document which sets forth the guidelines for this vast and challenging programme, but in the process there was learning by all states and experts from one another on how this programme should be launched. In early May, there was a national workshop on training sponsored by IAEA held at Stella Maris College, Madras. The 15 specialists who attended the workshop engaged in a review of the techniques of training and to do so undertook a discussion of the problems of motivation of the people, purpose of the programme, and the end result to be achieved.

Institute of Applied Manpower:

The Editorial Advisory Committee of the Institute of Applied Manpower Research, New Delhi met to review the functioning of the journal. There was agreement that the journal, the only one of its kind in the country, should ser economists who are working on employment and manpower problems and the Planning Boards of the States. One article in each issue should be by an economist and articles on manpower should be based on research and studies and should be accepted after approval by referees. Members of the Committees agreed to help the editor in obtaining articles and reviews for the journal and in enlarging its circulation and subscribers.

Tata School of Social Sciences and Red Cross:

The Tata School of Social Sciences held its annual convocation in early May. It was preceded by a meeting of the Governing Board when the functioning of the Institute and the work of the teaching and research staff were reviewed. The convacation orator was the Vice-President of India, Mr. B. D. Jatti, who called on the graduates to address themselves to the serious problems facing the country. World Red Cross Day was celebrated on May 6 in its headquarters in Madras at which the remarkable national and international aid

made available by it to those afflicted by the November cyclone and floods were retailed. On the occasion, Rs. 15 lakhs worth nylon nets contributed by the Norwegian Red Cross, were distributed to the fisherman who had been seriously affected by the cyclone in the State.

Data-base Seminar:

The Econometric Society organised in the Madras University its fifth data base seminar on the problem of collecting and analysing statistics on the unorganised sector. The seminar was attended by Prof. Dandekar, as Chairman, representatives of the Reserve Bank, Ministries of agriculture and industry, Planning Commission, NSS and econometricians from several universities. The unorganised sector is defined as the areas of activities not covered by statute and law, and also for this seminar leaving aside agriculture. Some of the problems involved are setforth in the second article to be published in a future issue of the Bulletin.

Vice-Chancellors' Conference:

A Conference called by University Grants Commission of the Vice-Chancellors of the Southern States, Maharashtra, Gujarat, Madhya Pradesh and Rajasthan was held in New Delhi on May 30 and 31. The main purpose of the Conference was to discuss the policy frame for the development of higher education in India issued by UGC last January, and to discuss the approach paper on Higher Education in the Plan for 1978-83. The Conference resulted in agreed guidelines for the development of universities in the Sixth Plan—a Plan period when it will have a lower priority than primary education and adult education.

Inter-Disciplinary Research Methodology Workshop:

The eighth inter-disciplinary research methodology workshop of the Institute and ICSSR was held at the Indian Institute of Regional Development Studies, Kottayam from May 19-22. In many ways the location was ideal because the Director of the Institute and staff arranged for a combination of intellectual work and practical demonstrations, an interaction between the academics and farmers, industrialists and city council members which enriched the proceedings. The theme was typology of village studies and an inter-disciplinary research project to be undertaken by the Madras Institute of Development Studies and Madras University. The workshop was attended by 23 social scientists, economists, anthropologists, social scientists, management specialists, and agricultural economists and philosophers. The declaration of the workshop appears as the second article.

Indo-French Consultation:

Under the Indo-French Bilateral agreement, an Indo-French International Consultation was held in Paris attended by 6 economists from India and 6 from France. The Director of the Institute was the Indian Chairman of the consultation. The major themes were concerned with educational and economic policies in the two countries, educational and employment in the two countries and the problems of continuing and adult education. It was interesting to note that there was a great similarity in the two countries—problems of economic stagnation, inflation high rates of unemployment and problem of adult illiteracy in India and problems of continuing education in France. It was

decided to continue joint research by the economists of the two countries on the relation between education and employment and the manner in which educational plans are contributing to the efficiency and the equity objectives in the two countries during the next two years, during which there could be an exchange of scholars working on the projects, to be followed, by another such consultation.

University Events :

May is the vacation month for the Syndicate and teaching staff. There were a series of selection committees during the month and some consultative meetings on future science developments in the university departments.

June Development Seminar :

At the monthly seminar of the Institute for June, Dr. B. Krishna Rao, Professor of Economics, University of Madras presented a paper on "Extension of Irrigation in the Country and the State" under the Chairmanship of Dr. C. T. Kurien. The paper together with a summary of the discussion on the paper at the seminar on Thursday, June 29 appears as the first article.

Second Article :

The declaration of the Eighth Inter-disciplinary Research Methodology Workshop appears as the second article.

Book Review :

A review by H S S Lawrence of the Institute publication, "Educational Perspectives of Tamil Nadu"—Backdrop to the Learning Society—edited by Malcolm S. Adiseshiah, appears in the Book review section.

Extension of Irrigation in the Country and the State

By

B. KRISHNA RAO

Madras

A brief reference to the economic aspects of irrigation in India is made in this paper. It however refers to some of the special features of the State of Tamilnadu in some detail. The conditions of the agricultural economy are brought into focus here though in fact the development of power and, through power, the development of industry are also related to irrigation and hence merit deep study.

Data on water use are inadequate in India for detailed economic and ecological analysis. Projections on water use are difficult to make. Such projections indeed require and depend upon the projections of a number of other factors as well. These include population, economic activities in various regions, water use efficiencies in various sectors etc. Some of the available projections indicating the scope for irrigation are shown in the Appendix.

Irrigation works were often taken up in India as famine relief operations and were meant to offer protection when monsoons proved too bad for food production. Though the available river supplies were spread out to as large areas as possible under the traditional works, the areas concerned did not have all their irrigation requirements met at the critical juncture when monsoons proved dilatory or insufficient. The fear of water-logging also led to irrigation works being taken up in some areas. The colonial governments of the past looked to the realisation of irrigation revenues in a considerable measure as an offset to public borrowing and the planning of irrigation as practised was rather tied to narrow concepts either of land use or economic growth.

Thus the percentage of cultivable land to be irrigated in the critical period of watering when the rains failed, the nature of the uses of water for the prevailing crop pattern were often matters left to the rough judgement of the bureaucracy. The area to be irrigated and the amount of water to be supplied depended on the river supplies and even with storage reservoirs and tubewells a similar method of rough judgement came to be continued. Irrigation supply was therefore found inadequate in quantity, timing, and reliability. Much wastefulness could be detected in conveyance methods and water management practices too.

In India the utilisable surface flows now total to 66.6 mhm approximately. There are in addition 26.10 mhm of ground water resources which can be used. Both these add up to 92.7 mhm of utilisable water resources. Per unit of land these resources are found to be highly variable from one river basin to another. Irrigation is now available only to less than thirty per cent of the sown area, and water supply covers only five per cent of the villages. Nearly 11 per cent of the population is affected by drought. 20 mha is subjected to seasonal floods in India and 12 mha are affected by water logging and salinity. As such a large part of the Agricultural area needs protective works.

Irrigation works depreciate rapidly for water courses are often affected by sedimentation and pollution; and rivers that change their course and overflow have been causing a damage of the order of Rs. 300 crores per year. Great dams and reservoirs, often typical of the water resources technology in the advanced countries, came to be taken in hand in India after Independence. But even today a philosophy of extensive, and unreliable irrigation just to fulfil the subsistance needs of the people persists.

Bihar, Maharashtra, Madhya Pradesh, Tamil Nadu, Haryana and Uttar Pradesh all had improved their irrigation potential under the Plans which however witnessed actually a rise in the capital outlays and the working expenses required for irrigation projects. A lag between expenditures and the creation of irrigation potential and a rather slow progress in the utilisation of that potential were also observable in various regions. According to the Sixth Finance Commission the cess on irrigation, works as projected over the Fifth Plan period could reach a total of Rs. 1000 crores nearly. Even in face of the rise in the costs of construction and operation there had been a failure of many governments to raise water rates which thus enjoy a subsidy all over India. A resistance to a rise in water charges took the form of farmers' agitation recently in Tamil Nadu.

The assessment of water and the administration of its use give rise to tangled problems. The gross value per hectare of crop yield is an element to be considered in fixing the rates. The Irrigation Commission felt that 5 to 12 per cent of the gross income of the farmers benefited by the irrigation works should be absorbed by the water rates. The Raj Committee came out with an important suggestion that there should be a parity for purposes of taxation between those depending upon private sources of irrigation and those depending upon public sources. In some states (Tamilnadu included) an irrigation cess is charged on areas dependent on public canals irrespective of the fact whether a farmer takes water in a season or not. The cess is intended to cover the maintenance costs of the works. The National Agricultural Commission felt that a two part tariff comprising a cess to cover the maintenance costs and a water rate fixed crop-wise would be useful in promoting the efficiency of water supplies.

In India the proportion of net sown area under irrigation was 18.3 per cent in 1961-62. This rose to 21.8 by 1969-70 and to 22.8 by 1973-74. Irrigation from canals, largely a public source, accounted for 7.7 per cent of

net area sown in 1960-61 and rose to 8.8 per cent in 1969-70 and to 9.1 in 1973-74. Irrigation from wells occurred much faster during the above period. From 5.4 per cent in 1961-62, and 8 per cent in 1969-70, in 1973-74 the area irrigated by wells rose to 9.3 per cent of the net cultivated area. Canals and wells had been thus equally important in the most recent years.

The net sown area under irrigation, considered state wise, showed about the same variation in 1961-62 and 1969-70 and even in subsequent years. The state-wise variations due to canals were reduced by 1969-70; but those due to wells had been rising. Figures at the All India level and for the states all in all show a rise in irrigated area as from 1950. By 2000 A.D. the needs of a rising population, its farm systems and the industrial economy impose the need for higher levels of irrigation and water use.

The utilisation of irrigation potential created under the five year plans was found to be below par. When new settlements had to be established in project areas, the administrative structures were lacking in speed and efficiency. The agricultural agencies in many areas could not provide technical guidance to farmers with sufficient alacrity and the farmers themselves had been taking considerable time to stablise their irrigation practices. There had been lags in the construction of distributory and water courses and this delayed the attainment of maximum irrigation benefits. The arrangements needed for land reclamation and levelling, for constructing field channels, and for bringing about changes in crop pattern have not also been catching up with the irrigation facilities potential created.

The history of irrigation in India amply bears out the linkage between land use and water resource development, the former following the latter and showing pecularities from time to time. Both in point of land use and water supplies the criteria of social justice have to be met. They have been often breached when the better-off sections tend to secure increased advantage in land and water rights and related resource uses. A criticism of the Five Year Plans has been that they had not brought forth enough for the weaker sections of the people and also failed to measure up to the unemployment problem, particularly in rural areas.

In 1950 a little over 20 mha were under irrigation, and by 1974 an addition of 23 mha was made under the plans. The total storage capacity built up or under construction in various river basins (excluding small tanks) was about 147 thousand mcm in India and it was just 18 thousand mcm at the time of Independence. With comparable surface flows, storage capacity in U.S.A. has been much higher. Of the storage built in India about 15 per cent was for purely hydro-electric purposes and the rest was for irrigation or multipurpose projects.

A critique of the traditional system of irrigation is in order for an economic analysis of Indian agricultural problems in an appropriate perspective seems to emphasize on large and radical changes. These changes become imperative since virtually all the new agricultural technology has now depended upon irrigation. For investment in irrigation

works, the expected financial return from them was fixed at six per cent until 1949, and that was lowered to a level of 3.75 per cent only from that year. The Second Irrigation Commission emphasized the Benefit—Cost evaluation of irrigation projects and those with a ratio of 1.5 or more have come into favour now. However, irrigation projects need not be considered each in isolation. The solutions to problems of employment of agricultural and industrial production, and the redress of regional imbalances lean on irrigation supplies.

The Five Year Plans have all considered irrigation as holding a key to the development process in agriculture. The many—sided nature of development, with irrigation works providing a proximate base for improved farm economic systems, was well realised by the International Bank for Reconstruction and Development which began by the 1960's to diversify its lendings for agriculture. The supply of funds beyond the needs of infrastructural irrigation which became the main thrust of the new policy is based on the perception that the benefits of extended irrigation can be realised better if investments complimentary to irrigation are also within reach of the people. This approach would be a path of wisdom for public authorities too.

The Bhakra Project one of the earliest to be taken up under the Plans aimed at a supply of hydro-electric energy as well. Irrigation demands are heavy for rabi sowing in the area of the project. Trade off possibilities between electricand irrigation supplies were known to exist in the working of this project. Heavily subsidised water rates were applied in this area to expand the utilisation of the irrigation facility. The Hirakud canal system promoting irrigation by gravity flow from field to field has its economic lessons. Over-irrigation at the upper reaches and shortages at the tail-end areas were experienced among the villages covered by the Hirakud scheme. Flow through ungraded terraces with different shapes and sizes was found to cause heavy percolation losses of water. It however accumulated in valley lands as there had been no proper drainage. The fertiliser and other nutrients applied to the plots at the upper reaches were washed down to the lower, which however showed no benefit owing to water-logging.

As from 1966-67 the IADP authorities (Sambalpur) provided technical and financial assistance to the villagers to help them to form a network of field channels. A comparison of villages with and without field channels reveals that the channels were useful in helping a rise in the irrigated area and cropping intensity, and brought in also some concomitant benefits, by way of increasing the HYV in a larger area. The water management programme increased the employment opportunities of hired labour in the area. The field channels covered a system of drainage also and only then the farmers secured control over water use. But such networks double the cost of village level work in building up an irrigation system. Such cost levels could turn a project from being a winner to being a loser, as Hopper remarks.

A study of Ghataprabha and Malaprabha projects (1973-74) by way of case analyses leads to interesting insights as regards command area development techniques. There are 55 command

areas identified in the country for concentrated development and the two projects above referred to, besides the Kaveri basin projects, belong to Karnataka territory. The Command area Development authorities have to look to more than engineering activities, like completion of dams and construction of field channels and ayacut roads and drainage. The agricultural sector of the programme (domonstration farms, seed production units, land levelling, fertiliser supply, plant protection, soil surveys, water management, consolidation of holdings, crop pattern changes, animal husbandry, veterinary aid, institutional credit agencies) has to be taken care of along with the supporting industry by the authorities.

Under the Ghataprabha and Malaprabha projects it was found that defective field channels were the reason why water did not reach the cultivators' farms. Where lands had been undulating, their levelling had to be taken up. A drainage system was set up for preventing water-logging and the growth of light irrigation crops were encouraged in the projects. Inspired by the fact that the agricultural progress witnessed in the Punjab was due to land consolidation measures irrigation-oriented consolidation was taken up in Malaprabha area. For a check on the irrigation potential as between farmers, and engineers' estimates Village Irrigation Committees were introduced and there were also taluk and district level committees. The crop pattern suitable for the new irrigation facility and the traditional rabi cultivation practised in the area gave rise to some conflict. Under the new dispensation even cultivation between kharif and rabi became possible. In Karnataka by an Act of 1965 the Irrigation department itself has taken up the construction of the field channels. A similar step was taken by Andhra Pradesh in the Nagarjunasagar area.

Tamilnadu is said to be one of the best irrigated states in the country with about 46 % of the net area sown under irrigation. According to the projections shown in the Appendix the state has, in years to come, to explore ground water supplies. Already wells are the prominent sources of irrigation in the state. Paddy had over 70% of the area cropped under irrigation but that came down to 66.9% recently by 1974. The acreage under irrigated Cholam had been a little over 1 lakh hectares and this was barely 4.1% of the area under irrigation by 1974-75. Cumbu recorded a percentage of only 1.6 per cent against the irrigated area. Ragi resembles cholam in regard to irrigation. Sugarcane had about 5% of the total irrigated area by 1975. The irrigated cotton acreage was only 3.3 per cent of the total irrigated in that year. Also irrigated groundnut area was found to be 5.6 % of the total.

The Irrigation Commission identified 24 taluks in Coimbatore, Dharmapuri, Madurai, Salem, Trichy and Tirunelveli districts as drought prone areas. They contain 25% of the area of the state and 16% of the state population.

The details of the sources of irrigation and the projections for Tamilnadu are shown in the Appendix. Projection of gross sown area show considerable variation considered state—wise. For Tamilnadu the projections indicated the availability of irrigation for about 35 to 50 per cent of the cropped area. Tamil

Nadu and Karnataka are said to have less protection from irrigation than Kerala, Bihar, Punjab, Uttar Pradesh and *Assam. Therefore, the vagaries of the* monsoons would be relatively influential in their effect on the Tamilnadu agricultural economy. Hence the need for protective irrigation.

Dr. Penman points out that water requirements would be the same for all crops if they are grown on the same soil *and for the same growing season.* "Irrigating a given crop at a given time of the year, for a given length of growing season, will use up much the same amount of water almost irrespective of the crop which is being grown; irrigators should always grow the crop which at the time of the year and at the prices prevailing, yields the highest return per *unit of time*", wrote Colin Clark. *He also* observed that in low income countries the net marginal returns to water might be less than in the high income countries. Crop—water response functions formulated for Indian conditions have been very few but Hopper's studies in a village (Sinapur 1960) in the Gangetic region revealed that the marginal productivity of a cubic metre of water use might be only 0.25 kg of wheat of 0.36 kg of barley. It is worth noticing that diminishing returns to water might be said to occur when irrigation sources shift to less naturally favoured streams and dam sites. Such shifts have been to some extent apparent in U. S. A., India and Pakistan. The cost of irrigation, which varies greatly according to source, the bullock or the human labour employed for water use and the appliances required in this process are important problems in farm management analysis.

The projections for the ground water to be raised indicate that its size at 25.5 million hectares for all India would be about over one-half of the surface water projects. A little less than two per cent of the total ground water supply needs to be organised in Tamil Nadu. Over-pumping in some areas of Tamil-Nadu has been already bringing them into the red. In Coimbatore district ground water is extracted from rocky strata by constructing large open wells wherein bores are made to tap water from water bearing fissures and crevices. Excessive competition by farmers causes a danger to the water table. The strengthening of the water table by well regulated water use is to be contemplated for the State. Salem, Madurai and North Arcot Districts also show symptoms of overpumping. The control and regulation of the use of ground water by legislation is an important problem and the sharing of ground water resources by groups of farmers just as they share canal water distribution is important. The benefit of irrigation in general has to *be extended to as large a community* as is economically feasible in terms of domestic, industrial and agricultural consumption uses.

The promise of higher yields for irrigated crops, the possibility of multiple-cropping in irrigated areas, a higher yield per unit of water are of course to be explored in drawing up water resource programmes. The relationship between irrigated area and the intensity of cropping is moot question. The latter is not necessarily very high in irrigated areas. Besides irrigation supplies, in areas where the monsoons were usually favourable, the cropping intensity tended to be high in Tamilnadu. In the Punjab too *similar* experiences were

reported. The uncertainty of yields in Kharif, and capital and labour supply constraints in certain areas were also found to be limiting the intensity of cropping in the Punjab even when the irrigation facility is available.

The National Agricultural Commission referred to the following objectives of irrigation policy: (1) making maximum use of rainfall for crops while irrigation would make up deficiencies, (ii) adopting suitable cropping patterns on the basis of soil, climate and available irrigation supplies, (iii) minimising irrigation losses by a scientific method of preparing the fields for irrigation, (iv) deploying irrigation for raising aggregate levels of production (not necessarily the yields) and (v) reuse of water as far as possible. The implications of the policy represent considerable changes in supplies of irrigation. The new irrigation system in India has to meet the needs of the modern high-input methods of farming. On the whole they seem to depend on a changed structure of irrigation, because the traditional system of flooding or gravity flow systems could cause an expensive waste to small farmers, washing away fertilisers etc., from the upper to the lower level farms, and affording but little control over water use by the individual farmers. Sound Centre-State and inter-state relations, it may be pointed out, play a profound role in promoting irrigation development on which an accent is placed in the Sixth Plan. Indeed heavy targets are set up for fulfilment in the years to come.

TABLE I

SCOPE FOR IRRIGATION DEVELOPMENT

	2025	1970-71	Balance	Surface Water	Ground Water
All India (million ha.)	110	38.5	71.5	46.0	25.5
Tamil Nadu	4.0	3.4	0.6	0.1	0.5

TABLE II

IRRIGATION THROUGH THE PLANS

Type of irrigation	End of First Plan (55-56)	End of Second Plan (60-61)	End of Third Plan (65-66)	End of Fourth Plan (73-74)
1. Major and medium (grass irrigated area in mha)	11.0	13.1	15.2	18.8
Minor gross irrigated area in mha.	14.1	14.8	17.0	23.5
2. Groundwater wells in use (8000)	3,624	4,474	5,111	5,841
Diesel pumps	123	230	465	1,752
Electric pumps	56	199	513	2,442
Private tube wells including filter point ('000)	30	49	113	782
State tube wells	7	10	13	21

TABLE III

GROSS IRRIGATED AREA—CROP WISE (TAMIL NADU)

(in lakh hectares)

Crops	1960-61	1971-72	1974-75
Paddy	23.03	24.84	20.28
Cholam	1.52	1.20	1.25
Cumbu	0.64	0.58	0.50
Ragi	1.80	1.31	1.27
Sugarcane	0.81	1.16	1.66
Cotton	0.99	1.22	1.00
Groundut	0.99	2.11	1.71
Othar Crops	2.55	2.88	2.72
Total	32.33	35.30	30.39

TABLE IV

AREA IRRIGATED BY SOURCES IN TAMILNADU

(in lakh hectares)

Sources	1960–61	1965–66	1969–70	1974–75
Government Canals	8.80	7.98	9.30	8.86
Private Canals	0.01	0.01	0.01	0.01
Tanks	9.36	9.03	8.79	5.94
Tube Wells	0.03	0.05	0.17	0.67
Wells	5.95	6.54	6.74	8.56
Other sources	0.46	0.38	0.31	0.34
Total net irrigated area	24.61	23.99	25.07	24.38
Area irrigated more than one	7.74	7.81	7.65	5.95
Total cropped area irrigated	32.35	31.80	32.72	30.33
Percentage of area of irrigated to total cropped area	44.2	45.0	45.7	45.7

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Summary of Discussion

1. The meeting was chaired by Dr. C. T. Kurien in the absence of Dr. Adiseshiah.

2. In presenting his paper, Dr Krishna Rao pointed out that given the large area covered by the topic for the day, it was necessary to stick to certain essential aspects. A point that he had left implicit in his paper, he said, was that water by its increased utilisation and management can no longer be treated as a "free good". As a result the role of the economist was to work out the best manner of development, when dealing with the rural sector, of irrigation in general.

3. This set the tone of the discussion that followed the presentation of the paper. The points raised can be broadly placed under four categories, and are so presented below :-

4. *Techniques of Irrigation:*

It was mentioned, to begin with that there are two types of field irrigation apart from gravity flow. These are the sprinkler flow and the Drip methods. Both of these, especially the latter, developed in Austria and Israel, where water is somewhat scarce, were noteworthy in that they reduced wastage. On the other hand, in the more traditional gravity flow method, water logging and seepage are major problems. The sprinkler flow method, it has been found from experiments in Tamil Nadu, has a weakness in its dependence on the right wind direction. Apart from these three there remain several other methods of field irrigation, and it is necessary to study each specific method and each specific region to work out the best possible one.

5. *Sources of Irrigation:*

Here the discussion mainly centred around the choice between groundwater and surface flow sources. Over-utilisation of the former leads to a decline in the water table and renders existing tubewells uneconomic. Moreover, utilisation of groundwater since it is mostly done by borewells and electric pumps, requires the concomitant development of electricity. In practice this relationship leads to a bureaucratic problem. Banks do not advance credit for pumpsets unless the Groundwater Directorate gives a clearance which is generally slow in coming. The Directorate maintains that there is no groundwater in six districts of Tamil Nadu, and the water table in general has already been over exploited.

Surface flows in India, as pointed out in the paper itself, has hardly been harnessed relative to other countries. Patterns of utilisation of surface flow may affect groundwater supply and have major consequences on the crop pattern as at Gobichettipalayam, where the main crop in the 1950s was tobacco, where water supply came from the saline groundwater. However, the construction of the Anaicut and the consequent seepage led to a decline in salinity so that tobacco no longer can be grown there. Moreover, sources are unevenly spread, with the major surface flow in the northern states

than in the south. The choice of sources must take both potential availability as well as the harms and benefits into consideration if it is to be properly done.

Surface irrigation, it was observed by more than one participant, may not reach its ultimate destination, since there would be off-take, legal or otherwise all along the line. This would be a drawback for grand projects like the Ganga Kaveri Canal; users in other states would probably be so plentiful that only a trickle might reach the Kaveri; again this probably explains why drinking water projects like the Veeranam project have to be covered, thereby escalating costs.

6. *Utilisation* :

It was pointed out that irrigation is a prime example of the problems raised by social expenditure and private appropri-tion. The government spends money on irrigation and the well-to-do gain from it. This is most clearly borne out in the case of state subsidised private invest-ment. An RBI study on asset distribution in Tamil Nadu showed that the top 1 per cent of rural households have more assets than the bottom 90 per cent together, and this is precisely due to private asset formation subsidised by the State. The technical consideration for groundwater use and increased produc-tion attaches to a social problem of inequality. The existence of private ownership of land is thus a major handicap in the way of such programmes paying proper returns. As things stand these only worsen the situation. This does not, of course, mean that irrigation expansion must not occur. On the contracy, such expansion must take place but must necessarily go hand in hand with land reforms. Several example were mentioned to show how the big landlords overutilised the irrigation system at the cost of others, even to the extent of rendering whole projects useless. It was suggested that one method of avoiding this might be to not dictate cropping patterns to the beneficiaries of a project as has been done often up to now and (in any event been by and large ignored) but to allot the water per blocks of say 500 acres or so and impose the quota rigidly.

It was noted in passing that the Kaveri carries enough water to be utilised by all the three states it passes through.

7. *Regional Problems and Cropping Patterns*:

It was noted that the methods of field irrigation being tried out were simply ways of money being siphoned out of banks with no results obtaining. A better cropping pattern may be more worthwhile.

However, even here, there are many problems. The arrival of irrigation usually has meant, as in Coimbatore, a movement of the large cultivators from dry crops to sugarcane and finally to paddy, much to the detriment of the smaller farmers who don't get any water as a result. In general, moreover at

least a significant part of the potential from a new feeder system is often lost because extension work to demonstrate new patterns do not reach many cultivators, and when it does receive only a slow response. It is thus important not only to expand extension services but to make farmers see the harmfulness of overdrawing water and making unplanned changes. Such education once imparted will go a long way to make a success of the various projects.

In regional terms, it was stated that projects with a local spread may be more useful than long ranging once like the Ganga-Kaveri Project. Again, the stability in the pattern of precipitation in the monsoon areas that has been noted by scientists means that the entire region can be linked up by a network, thus neutralising in practise the uneveness of precipitation.

8. Finally, it was posited that a theoretical model can be set up by treating water supply as an industry that practices market discrimination.

9. The Chairman thanked Dr. Krishna Rao for his interesting paper, and all present for the lively discussion.

Interdisciplinary Workshop on Research Methodology

The eighth interdisciplinary research methodology workshop on village studies was held at the Indian Institute for Regional Development Studies, Kottayam, during May 20-23, 1978 under the joint auspices of the Madras Institute of Development Studies and the ICSSR Southern Regional Centre. The venue of the workshop was the Sophia Centre. Kottayam, and Dr. K. Mathew Kurian, Senior Professor and Director, Indian Institute for Regional Development Studies was the Director. The statement adopted by the workshop is given below:

STATEMENT OF THE WORKSHOP

The eighth interdisciplinary methodology workshop on "Village Studies" at Kottayam was attended by 24 participants representing the following disciplines: Anthropology, Sociology, Geography, Psychology, Economics, Philosophy, Management and Agricultural Economics. As a continuation of the 7th workshop held at Hyderabad on the same theme, the eighth workshop probed in greater depth problems of methodology and content of village studies.

The first exercise was a geographer's and an anthropologists' review of a study of a tribal village conducted by an anthropologist under the auspices of an agro-economic research centre. A second exercise was a sociologist's review of two studies conducted by economists.

The reviews brought out that the study of a village does not become an interdisciplinary exercise merely because different disciplines are represented in it, but that interdisciplinary study involves the incorporation of different perspectives.

Following the recommendations of the Hyderabad workshop, two papers were presented on the typology of villages. One was a review of an economist's attempt to generate a typology of villages based on multiplicity of characteristics. A second was an anthropological attempt at the classification of villages on the basis of certain key attributes.

Discussion arising from these two papers centred around the concept of typology itself, empirical methods used in typological exercises, the usefulness of cross-section studies for the understanding of change, and the procedure of incorporating variables from different disciplines in empirical studies.

A problem of general nature with respect to the study of villages that came

up in these discussions related to the techniques of investigation, some of which fail to elicit correct information. In this context the importance of ethnographic field study was stressed.

The workshop also examined alternative approaches to rural development and reconstruction with special reference to eradication of poverty. The three presentations on the subject pointed out the inadequacy of many simplistic approaches to rural problems which tried to solve them directly and immediately without reference to the complex factors which call for analysis. It was pointed out that analysis of these problems again necessitated evolving new conceptual and analytical frameworks taking into account the totality of the situations.

The members of the workshop agreed that a programme of rural development for the eradication of poverty and the general improvement of the rural society must include the following:

1. Structural changes with special reference to the ownership of land and other assets and agrarian relations.
2. Politicization of the rural poor through their participation in measures to protect their rights.
3. State intervention on behalf of the economically deprived sections against all exploitative forces.
4. Measures to curb incomes and redirect consumption of the affluent section both in rural and urban areas.
5. Deliberate attempts to counter the exploitative and inequitious forces of casteism and communalism.

Arising from these deliberations the workshop made the following recommendations:

I Areas of study to be pursued either individually or collectively by the members of the group.

(i) Structural aspects of poverty and economic deprivation in the villages.

(ii) Indegenous and exogenous efforts for development and peoples participation.

(iii) Interplay of class and caste in village India in the context of rural change.

(iv) Innovations and peoples perception of and opportunities and risks involved in them.

(v) An evaluation of voluntary agencies and pressure groups as agents in rural change.

II Special Studies to be undertaken

(i) Analysis of existing village studies

Some of the papers presented in the workshop reveal that while a large number of village studies are already published one does not get an overview of the configuration of significant attributes of villages of different regions, Hence, there is need to map out the distribution of different types of

villages on the basis of certain important dimensions. Besides continuing the kind of exercise that has already begun in formulating typologies of villages on the basis of geographical and topographical setting, economic and social organisation hierarchical structures and political processes, special attention should also be paid to the aforementioned areas studies as in section I. It was noted also that typological studies must be followed by appropriate analytical studies.

(ii) Field Study of Villages

In addition to the analysis of published studies of villages, it is also proposed that field studies of a few villages within an ieterdisciplinary conceptual framework be carried out by a small team of social scientists beloging to different specialities. Beside the frame of reference set for the analysis of the published studies, these field researches should also include in their ambit the working of the land reforms and such other developments in recent years.

The workshop recognised that the most pressing problem in our villages and rural areas is the poverty of the vast majority of the people. The responsibility of the social scientists in this context is not merely to study poverty and related problems from an academic perspective, but to identify themselves with the poor and the deprived in their struggles for emancipation and justice.

Book-Review

Education Perspective for Tamil Nadu Backdrop to the Learning Society

Edited by: Dr. MALCOLM S. ADISESHIAH

Published by: Madras Institute of Development Studies, Madras
in co-operation with
Indian Council of Social Science Research, New Delhi.

This useful publication is the outcome of a special seminar organised by the Madras Institute of Development Studies in co-operation with the Indian Council of Social Science Research, New Delhi, under the dynamic leadership of Dr. Malcolm S. Adiseshiah, present Vice-Chancellor of Madras University. The seminar, composed of eminent educationists, educational administrators and teachers, met every month for as long as 14 months from June 1975 to August 1976. While one would not entirely agree with the findings of the seminar, particularly with some of its observations on the educational development of Tamil Nadu in the recent past, no one would fail to appreciate the valuable service of the Madras Institute of Development Studies and the participants of the seminar in setting this *Backdrop* as an aid to educational planning and performance in Tamil Nadu.

In his introduction Dr. Adiseshiah lucidly enunciates the three important purposes of the 10+2+3 pattern of education as follows:

> "One purpose is that the new pattern is being used as an occasion for modernising the learning system.
>
> "A second purpose is to use the new pattern to break the human and social life cycle into which we have divided life and society, under which for one small sector of society, there is 15 to 20 years of education, followed by 40 to 45 years of work and no education. This demands a double correction of the education system—for work to become a form of education on the one hand, and for such work-based education to be available to all persons in our society on the other.
>
> "A third purpose is to use the occasion of the new pattern of education to raise standards, particularly at the University level."

This clear-cut statement of aims has been a very useful guideline in the planning and implementation of higher secondary education in Tamil Nadu.

He rightly emphasises the need for supplementing the formal education system by a planned programme of non-formal and informal education because the formal system has far lagged behind the target of providing free compulsory

education up to the age of 14 to all people as envisaged in the constitution.

The ever-widening gap between education and employment is pointed out with relevant statistics to stress the need for switching to the more purposeful 10+2+3 pattern of education.

Chapter I, "Education Perspectives for Tamil Nadu", discusses in detail whether education is for the perpetuation of the status quo or for a social change and shows how *education should be a force* for bringing about social change. It rightly underlines the need for sustained efforts towards educational reforms and points out "that education's most visible testimony to society is the 'invisible curriculum', the way educational institutions are organised, the manner in which teachers and taught manage their affairs and what, in general, educators aspire for". One should certainly answer the clarion call to "join hands with the many who fight for justice and the few who stand for truth" to "keep education alive to the claims of justice and truth in society".

One would think that the critique on the "policy and performance in Tamil Nadu Education" in Chapter II is tilted towards the few shortcomings and drawbacks instead of providing a balanced perspective of the achievements and the unachieved targets. To say that "the expansion of elementary education had not been planned" seems to me very uncharitable and incorrect. Schools were not located indiscriminately, as mentioned in the chapter, but the needs and aspirations of all areas, particularly the rural areas, and those of the weaker sections had to be taken into consideration while locating schools, and this consideration for the welfare of the uncared-for has only served to improve their lot. Again, it is short-sighted to say "that the elementary education programme has come to a dead end.', Education has no end, not to speak of a dead end, and no programme of education can be final, if education has to be a force for social change as explained in chapter 1. The Central and State Governments have always paid their utmost attention, within the available resources, to elementary education and it has been a continuous and expanding process. Further the School Meal and School Improvement Programmes have had their advantages in bringing children into school and preparing schools to meet the growing needs. These need-oriented programmes, which involve the parents and the public, cannot be condemned with any justification. Part-time education is an entirely different proposition which need not and cannot be mixed up with these two programmes of great value.

Some of the observations in this chapter, such as, "little attention could be paid to the qualitative improvement of education or even to the maintenance of standards" (page 47), "an absence of academic leadership in Tamil Nadu education during the formative years was due to the total absence of preparation for planned growth and educational planning" (page 48), "the in-training programmes therefore deteriorated into merry get-togethers" (Page 50), are difficult to accept for those who are aware of the considerable, perhaps not spectacular, progress achieved through several programmes for quality in education. It had better be under-

stood that qualitative improvement has been attempted and achieved to a great extent along with quantitative expansion, though not at the same pace. Any approach to and appraisal of all developmental programmes should be constructive and positive and not negative as the author of this chapter has chosen to make his. If everything had gone wrong in the field of education, as the author seems to believe, we could not have remained and grown as such a strong democratic nation with all the agricultural, industrial and social development we have had.

The second part of Chapter II—some Educational Achievements in Tamil Nadu—stands in reassuring contrast to the first part and serves to tilt the retrospect back to normal. The author of this part traces the noteworthy achievements since the formation of Tamil Nadu and highlights with relevant statistics the merits of the progressive programmes and schemes launched successfully in the State, such as school enrolment, free school meals, school improvement projects, parent-teacher associations, mobile science laboratories, internal assessment, etc. His constructive approach to all these schemes and his deep involvement in them are amply manifest in his treatment of these topics. He rightly emphasises the need for arresting wastage in education. I would gladly say that he has succeeded in establishing that "Tamil Nadu Education has performed better than ever before" and agree with him that "people do not want more of the same" but want "a change for better results".

Part 3 of Chapter II, which deals with functional literacy, traces the history of indigenous mass education through Gandhiji's, Vinoba's and Rajaji's attempts at functional literacy for the Indian masses. There is no gainsaying the conclusion that literacy and work experience should be correlated and both should contribute to the growth of personality.

Chapters III to VII contain a lot of food for throught. The article on the role of the teacher discusses the conditions that have led to the deterioration in the teachers' standards in general and strongly advocates the system of panel inspection of schools, which has been adopted in this State since last year. The next article traces the evolution of school curricula in Tamil Nadu and makes a few suggestions for curriculum construction.

"A practical plan for multi-point entry in the ten years school" discussed in the article under that caption has missed the existing provision for multi-point entry into schools in this State up to the eight standard. I do not think that the organisation of special classes for older children, as suggested in this article, could be built into the formal system of schooling. Non-formal education should take care of such children.

The other themes discussed in the latter chapters are the non-formal system of education, the Open University as a means of mass higher education, vocationalisation of education and educational management.

In Chapter VI, Dr. Adisesiah sums up the findings of the seminar as expressed in the papers presented by the participants. Drawing eight morals from them, he makes some very useful suggestions

for better organisation and management of the "four factors consumed by the education system", viz., students, teachers, building and equipment. Thereafter he disscusses the educational process and underlines the needs for the management machinery to be atleast aware of our national and social objectives crying out for realisation, while designing the curricula. Incidentally, I would like to acknowledge in this context the useful guidance we have had from his suggestions in this book, while designing the curriculum and syllabi for the +2 stage.

In conclusion I would say that this publication will be a very useful guide to educational planners, administrators, and teachers, notwithstanding the few sweeping observations and fallacies I have had to point out for the purpose of balancing the perspective.

The book has a nice get-up and the editing and presentation of the material are excellent. A few printing errors that have crept in may be eliminated in the next edition.

H. S. S. LAWRENCE.

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II. In the Press

21. Alexander Joshua: Rural Primary Education and Adult Literacy in Tamil Nadu.
22. Barbara Harriss: Paddy and Rice Marketing in Northern Tamil Nadu.
23. N. Rajagopala Rao and V. Lakshmana Rao: Introduction to Mathematics and Statistics.
24. B. Sarveswara Rao: A Study of Rural Poverty and Inequalities in a Developed District.

III. Future Publications

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26. V. J. Ravishankar: and K. A. Zachariah
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